CONSEIL PERMANENT INTERNATIONAL POUR
L'EXPLORATION DE LA MER

RAPPORTS

ET

PROCÈS-VERBAUX DES RÉUNIONS

VOLUME XXXVIII

PROCÈS-VERBAUX

(SEPTEMBRE — 1925)

EN COMMISSION CHEZ
ANDR. FRED. HØST & FILS
COPENHAGUE

Décembre 1925.

800 XII 1925

COPENHAGUE – IMPRIMERIE BIANCO LUNO

TABLE DES MATIÈRES

PROCÈS-VERBAUX DES RÉUNIONS DU CONSEIL:

Dix-huitième réunion, Copenhague, Septembre 1925 — Page

Bureau, tableau des membres etc. ... 5—7
Ordre du jour de la réunion ... 8
Procès-Verbal de la séance du 1 septembre ... 9—22
— - - — - 3 — ... 22—26
— - - — - 4 — ... 26—33
Budget du Conseil pour 1925—26 ... 34—35
Liste des Comités ... 36—39
Programmes et Recommandations des Comités adoptés par le Conseil:
Comité du Plateau continental Atlantique ... 40—43
— de l'Aire Nord-Ouest ... 42—43
— - — Baltique ... 42—45
— - — Nord-Est ... 44—47
— - la Mer du Nord ... 46—49
— statistique ... 48—49
— hydrographique ... 48—51
— du Plankton ... 50—55
— limnologique ... 54—55
— consultatif ... 54—57
Organisation comme revisée à la réunion à Copenhague en septembre 1925 58—61

RAPPORT ADMINISTRATIF SUR LA VINGT-TROISIÈME ANNÉE 1924—25:

Comptes-rendus, séances etc. ... 62—64
Travail du Bureau, publications etc. ... 64—65
Travail des pays participants en 1924—25 ... 66—92

DIX-HUITIÈME RÉUNION

COPENHAGUE — SEPTEMBRE 1925.

BUREAU DU CONSEIL:

M. H. G. MAURICE, Président du Conseil.
M. OTTO PETTERSSON, Vice-Président du Conseil.
M. J. HJORT, Vice-Président du Conseil.
*M. T. TISSIER, Vice-Président du Conseil.
M. F. DRECHSEL, Secrétaire-Général du Conseil.

MEMBRES DU CONSEIL ET EXPERTS

et leurs adresses:

Belgique: M. LÉON VERBRUGGHE, Administrateur-directeur de l'armement ostendais, *Ostende.*

M. H. BAELS, Administrateur de sociétés de pêche, membre de la chambre des Représentants, échevin de l'industrie et du commerce, Avenue Serruys 64, *Ostende.*

Expert: M. G. GILSON, Professeur, Directeur du Musée Royal d'histoire naturelle de Belgique, *Bruxelles.*

Danemark: M. le Commandeur C. F. DRECHSEL, Strandvej 34, *Copenhague.*

M. MARTIN KNUDSEN, Professeur à l'Université, Polyteknisk Læreanstalt, *Copenhague.*

Experts: M. F. V. MORTENSEN, Directeur des Pêches, Christiansgade 6, *Copenhague.*

M. le Dr. A. C. JOHANSEN, Strandvej 34, *Copenhague.*

M. le Dr. JOHS. SCHMIDT, Directeur du Laboratoire Carlsberg, Section de Physiologie, *Valby, Copenhague.*

M. le Dr. C. H. OSTENFELD, Professeur à l'Université et Directeur du Jardin Botanique, Gothersgade 140, *Copenhague.*

Espagne: M. le Professeur ODÓN DE BUEN, Directeur Général du Service des Pêches et de l'Institut Espagnol d'Océanographie, Professeur de Biologie à l'Université de Madrid, Président de la Section d'Océanographie à l'Union Internationale Géodésique et Géophysique, La Gasca 116, *Madrid.*

* Empêché à cause de maladie.

M. Fernando de Buen, Docteur-ès-Sciences Naturelles, Chef du Département de Biologie de l'Institut Espagnol d'Océanographie (Direction Générale de Pêches), Alcalá 31, *Madrid.*

Esthonie: *M. D. Rootsman, Professeur à l'Université de Dorpat.
(Provisoirement) M. E. Wirgo, Chargé d'Affaires de l'Esthonie, Stockholm.

Finlande: M. le Dr. R. Witting, Professeur, Directeur de l'Institut pour l'Exploration de la Mer, *Helsingfors.*
M. le Dr. T. H. Järvi, Professeur, Directeur de l'Institut scientifique des Pêches, *Helsingfors.*

France: M. le Professeur Louis Joubin, Membre de l'Institut, Professeur au Muséum National d'Histoire Naturelle, Directeur de l'Office Scientifique et Technique des Pêches Maritimes, 55, rue du Buffon, *Paris.*
**Suppléant M. le Président Théodore Tissier, Président de Section au Conseil d'État, Vice-Président du Conseil International, 13, rue Monsieur, *Paris.*
M. Lecourbe, Directeur du Service des Pêches Maritimes au Sous-Secrétariat de la Marine Marchande, 24, rue du Boccador, *Paris.*
Experts: M. le Professeur L. Roule, Professeur au Muséum National d'Histoire Naturelle, 57, rue Cuvier, *Paris.*
M. Ed. le Danois, Docteur-ès-Sciences, Secrétaire Général de la Commission de la Méditerranée, Sous-Directeur de l'Office Scientifique et Technique des Pêches Maritimes, 3, avenue Octave Gréard, *Paris.*

Grande Bretagne: Mr. H. G. Maurice, C. B., Fisheries Secretary, 43, Parliament Street, *London.*
Mr. David T. Jones, C. B. E., F. R. S. E., Chairman of the Fishery Board for Scotland, Edinburgh.
Experts: Professor D'Arcy W. Thompson, C. B., F. R. S., The University, *St. Andrews.*
Mr. J. O. Borley, O. B. E., Fisheries Laboratory, *Lowestoft.*
Mr. A. Bowman, D. Sc., F. R. S. E., Scientific Superintendent, Fishery Board Laboratory, *Aberdeen.*
Mr. R. S. Clark, M. A., D. Sc., Fishery Board Laboratory, *Aberdeen.*
Mr. F. M. Davis, Fisheries Laboratory, *Lowestoft.*

* N'a pas assisté à la réunion.
** Empêché à cause de maladie.

Dr. E. S. Russell, Director of Fishery Investigations, 43, Parliament Street, *London.*

État Libre d'Irlande: Mr. Charles Green, Inspector of Fisheries, 3, Kildare Place, *Dublin.*
Mr. G. P. Farran, Assistant Inspector of Fisheries, 3, Kildare Place, *Dublin.*

Lettonie: *M. V. Miezis, Ministère d'Agriculture, *Riga.*
M. le Dr. E. Strand, Professeur de Zoologie, Directeur de l'Institut zoologique systématique et de la Station hydrobiologique, *Riga.*

Norvège: M. le Professeur Johan Hjort, à l'Université, *Oslo.*
M. S. K. Asserson, Directeur des Pêches, *Bergen.*

Pays-Bas: M. le Dr. E. van Everdingen, Professeur à l'Université, Directeur en Chef de l'Institut Météorologique Royal des Pays-Bas, *De Bilt.*
M. le Dr. H. C. Redeke, Directeur du "Rijksinstituut voor Biologisch Visscherijonderzoek", *Helder.*

Pologne: M. Michel Siedlecki, Professeur de Zoologie à l'Université de Cracovie.
Expert: M. le Dr. F. E. Lubecki, Département de la Pêche au Ministère de l'Agriculture à Varsovie.

Portugal: M. le Colonel F. A. Chaves, Directeur du Service Météorologique des Açores, *Ponta Delgada, Açores.*

Suède: M. le Dr. O. Pettersson, Professeur, *Holma, Gåseberg, Bohuslän.*
M. le Dr. Gustaf Ekman, Södra Hamargatan 11, *Göteborg.*
Experts: M. le Dr. K. A. Andersson, Directeur des Pêches Maritimes, Kungl. Lantbruksstyrelsen, *Stockholm.*
M. le Dr. Hans Pettersson, Docent, *Göteborg.*

* N'a pas assisté à la réunion.

AGENDA

for the eighteenth meeting of the International Council for the Exploration of the Sea

(Copenhagen, 1st—4th September 1925).

---

1. Opening of the Proceedings, by the President.
2. Report by the General Secretary as to the present participation.
3. Administrative Report.
4. Final approval of the Accounts for 1923—24.
5. Statement of Accounts for 1924—25.
6. Estimates for the financial year 1925—26.
7. Formation of Sections and Committees (Hydrographical, Plankton, Statistical, Limnological, and Committees dealing with the Plaice, Herring, Cod and Haddock, Baltic, Atlantic Slope and North Western Atlantic investigations).
8. Programme for Meetings of Sections and Committees.
9. Communications about the Plaice and the Hydrographical Meetings at Amsterdam in March, 1925, and about the Council being represented at the 100 years jubilee of the Bergen Museum.
10. Communication about international proposals in connection with the Congress of the Union Géodésique et Géophysique internationale (Section d'Océanographie) at Madrid in October 1924.
11. Appointment of a permanent hydrographer to the vacant place at the Bureau.
12. Nomination of the members of the Bureau, the Financial Committee, the Editorial Committee, and the Editors and Conveners.
13. Other business.
14. Conclusion of the meeting.

REPORT

of

the 18th Meeting of the Council.

Plenary meetings were held in Copenhagen on September 1st, 3rd and 4th.

The Committees of Atlantic Slope, North Western Area, Baltic, North Eastern Area, North Sea, Statistics, Hydrography, Plankton and Limnology as well as the Consultative Committee held meetings from the 2nd to the 4th of September.

First Sitting: Tuesday, September 1st, 1925, at 11 a. m.

The President, Mr. MAURICE, in the chair.
Present: The members, experts (vide list pp. 5—7).

Under **Point 1** of the Agenda the President formally opened the proceedings in the following words:—

Messieurs les Délégués et Experts,

J'ai l'honneur de déclarer ouverte la 18e session du Conseil International. Avant toutes choses, je vous invite à adresser à S. M. le Roi de Danemark un télégramme pour lui témoigner la satisfaction que nous avons à être une fois de plus ses hôtes, dans son royaume.

Selon l'usage, j'adresserai en votre nom des souhaits de bienvenue à ceux qui siègent pour la première fois parmi nous.

D'abord à M. CHARLES GREEN, délégué de l'État libre d'Irlande, qui fut expert du Conseil avant la guerre et qui maintenant vient rejoindre au nom de son Gouvernement notre ami et collègue FARRAN.

De même j'exprimerai à M. FERNANDO DE BUEN notre satisfaction de le voir parmi nous comme délégué du royaume d'Espagne. M. FERNANDO DE BUEN continue la tradition scientifique de son père et cette qualité seule suffirait à lui assurer notre sympathie.

Mon cher collaborateur DAVIS, soyez ici le bienvenu comme expert du gouvernement de Grande Bretagne.

Si les contrées de l'Ouest et du Sud envoient près de nous de nouveaux collègues, les pays du Nord et de l'Est nous envoient de même de nouveaux amis.

Ainsi M. WIRGO, Chargé d'affaires en Scandinavie, représente dans le Conseil pour la première fois le Gouvernement de l'Esthonie; M. le professeur STRAND, la Lettonie; M. ASSERSON, directeur des pêches de Norvège, vient seconder notre ami HJORT. De même M. LUBECKI rejoint dans nos séances notre collègue SIEDLECKI.

Je souhaiterai aussi la bienvenue à M. LÉON VERBRUGGHE, administrateur-directeur de l'armement ostendais; j'ajouterai que non seulement je le salue parce qu'il représente la nation belge, mais aussi parce qu'il est un armateur éclairé et que le Conseil International a tout intérêt à avoir parmi ses membres à coté des savants et des administrateurs, des industriels et des professionnels de la pêche qui connaissent le coté pratique de la question. J'apprends avec grand regret que notre cher ami et collègue HAMMAN est indisposé. Tous, vous vous joindrez à moi pour lui adresser tous nos vœux de prompt et complet rétablissement.*)

Nous formulerons les mêmes vœux à l'égard de M. THÉODORE TISSIER, vice-président du Conseil International, retenu à Paris par les suites d'une opération. Nous déplorons de ne pas le voir parmi nous tant aux séances du Bureau qu'à celles du Conseil.

J'ai reçu de sa part le télégramme suivant:

> Monsieur le Président du Conseil International pour l'exploration de la mer.
> Je vous renouvelle tous mes regrets de ne pouvoir, par suite de ma santé, participer au Congrès de Copenhague et vous prie de les transmettre à mes collègues du bureau et du Conseil qui sont pour moi des amis avec lesquels il m'eut été agréable de me rencontrer.
> Je souhaite bon succès au travail du Conseil. TH. TISSIER.

M. JOUBIN qui le supplée pendant cette session lui portera à son retour en France l'expression de notre sympathie et nos vœux de son rétablissement définitif.

Monsieur le Colonel CHAVES, au nom de tous les membres du Conseil International, je vous exprime les sentiments de douleur profonde que nous ressentons tous en apprenant la mort de notre collègue et ami, l'amiral NEUPARTH. Depuis que le Portugal avait désigné l'amiral comme son représentant au Conseil, il avait su s'attirer la réspectueuse admiration de tous. Nous n'ignorons pas qu'avant de s'intéresser avec une bienveillance éclairée aux choses de l'océanographie, l'amiral avait été un des grands géographes du monde africain. Il y avait dépensé quinze années de sa vie, travaillant pour la grandeur des colonies portugaises en fixant dans les parties les plus reculées du continent mystérieux les limites de vos possessions.

*) M. H. BAELS, empêché d'assister à la réunion d'ouverture, a suivi les autres travaux du Conseil en sa qualité de délégué de la Belgique en remplacement de M. HAMMAN indisposé.

Colonel, tous les membres du Conseil vous expriment par ma parole leurs sentiments de sympathie et de condoléance pour la perte que vous faites en la personne de votre ami et pour celle que fait votre patrie en perdant un marin et un savant.

Et maintenant, Messieurs, je vous demande dans les quelques jours pendant lesquels nous allons être ici réunis de bien vouloir consacrer toute votre activité aux travaux du Conseil International.

Captain DRECHSEL said that he had received a letter from the Danish Ministry of Agriculture asking him to represent the Ministry on the reception of the Council. He added that he had done so for years, but that there was now the difference that he was no longer the chairman of the Danish Commission. He finally on behalf of the Ministry invited all present to lunch at the office and explained that luncheon would be provided daily by the Ministry, as had been done last year.

Mr. JONES, who now replaced Professor D'ARCY THOMPSON as a British Delegate for Scotland, expressed his gratitude to Professor D'ARCY THOMPSON for his graceful act in resigning the office of delegate in order that Mr. JONES might succeed him, and proposed a vote of thanks to Professor D'ARCY THOMPSON for his great services to the Council during a period of more than 20 years. The vote was heartily accorded.

Point 2 of the Agenda (Report as to present participation).

The General Secretary reported as follows:—

11 countries are now participating as ordinary members of the Council, viz.:— Belgium, Denmark, Finland, France, Great Britain, Ireland, Norway, the Netherlands, Portugal, Spain and Sweden. To these must be added Latvia and Esthonia, participating on condition of free membership, and at liberty to contribute to the Bureau according to their means. During the past year Latvia has contributed Kr. 2000.00. From Latvia Professor STRAND has been announced as delegate at the meeting of the Council. From Esthonia Dr. ROOTSMAN is announced as delegate but will be replaced at this meeting by Mr. WIRGO.

Poland expressed last year through the Danish Foreign Office the desire to enter as an active paying member. A request to this effect, suggesting that Poland should be admitted on a yearly contribution of 5000 Kr., has been received by the Danish Foreign Office and forwarded to the participating countries. Four countries only, viz:— Denmark, Portugal, Sweden and the Irish Free State have answered, all favourably. It is to be hoped that the remaining answers will arrive in a near future, and that thus Poland for the coming year may be reckoned as a member. During the past year Poland has participated as a free member and paid a contribution of 3,000 Kr., and for the present year is contributed Kr. 2,500.00 representing 1st half of a yearly contribution of Kr. 5,000.00.

Germany. A long correspondance has taken place with regard to Germany's

readmission to the Council. After the question had been considered at the last meeting of the Bureau at Amsterdam the Danish Foreign Office was asked to take the matter into hand and sent to the German Minister in Copenhagen a letter which has been distributed to the members of the Council. The reply of the German Government has not yet been received.

The Irish Free State has become member of the Council paying a yearly contribution of 10,000 Kr. Mr. GREEN and Mr. FARRAN are announced as delegates.

According to decision of the Bureau a letter was sent on the 14th of April suggesting to the Danish Foreign Office to enquire of the Governments of Belgium, Finland and Portugal whether they are now in a position to pay full contribution to the Bureau. Only Belgium has answered officially, expressing the hope that the Council will agree to continue with the reduced contribution, as the reasons why the reduction took place are still in force.

The Portuguese Minister at Copenhagen has called at the Bureau and communicated the contents of a letter from the Portuguese Navy Department to the effect that Portugal could not for the present time exceed the yearly contribution of 5,000 Kr.

As to the Plaice question, the following letter has been received from the Danish Foreign Office:—

> "Le Ministère des Affaires Étrangères n'a pas omis de donner ses instructions aux Légations du Roi à la Haye, à Berlin, à Bruxelles, à Paris, à Stockholm, à Oslo et à Londres, conformément au désir exprimé dans votre note en date du 12 mai dernier relatif à la convocation à Londres d'une conférence ayant pour but de considérer quelles mesures administratives on pourrait prendre pour la protection de la pêche de la plie dans la Mer du Nord et d'élaborer un projet d'une Convention internationale à ce sujet.
>
> Jusqu'à maintenant seuls les Gouvernements à la Haye et à Londres ont répondu aux notes qui leur ont été adressées. Vu l'intérêt que le Gouvernement néerlandais attache à une réglementation satisfaisante de la pêche de la plie dans la Mer du Nord, ce Gouvernement est disposé à envoyer un délégué à la Conférence projetée à Londres à condition que les autres pays intéressés s'y fassent également représenter.
>
> Le Gouvernement britannique, comme il ressort de sa note du 30 du mois passé, dont copie ci-jointe, a bien voulu donner son adhésion à ce que la conférence se réunisse à Londres. Toutefois, comme le Gouvernement britannique désire donner occasion aux autorités intéressées de considérer le rapport du comité d'experts à Amsterdam, le Gouvernement britannique ne se voit pas à même, dès maintenant, de proposer la date de la réunion de la conférence.
>
> Tout en se référant à cette réponse du Gouvernement britannique, le Ministère se permet d'ajouter que le Ministère royal de l'Agriculture, pour ce qui concerne les intérêts danois, est d'avis que la conférence projetée doit avoir lieu et il désire en ce cas nommer le délégué technique qui représentera le Danemark à la conférence".

Le Gouvernement français, par suite d'une lettre du 28 de ce mois, est d'accord que la réunion de la future conférence pour la protection de la plie dans la mer du Nord ait lieu à Londres. Quant à l'époque la plus propice pour la convocation

de cette conférence, elle paraît être — pour le Gouvernement français — la deuxième quinzaine du mois de novembre prochain.

In the above named note from the British to the Danish Foreign Office the last paragraph is as follows:—

> "In conclusion, I shall be glad if you will invite the Danish Government to convey to the International Council for the Exploration of the Sea an expression of the appreciation of His Majesty's Government of the careful and exhaustive examination given to this most difficult problem."

To all Governments now represented on the Council has been submitted the desirability of formally announcing their continuous adhesion to it after July 21st 1926 either indefinitely or at least for a further period of 5 years and at the present rate of contribution. The Bureau has expressed the hope that the reply to the request might be received not later than in the spring 1926. The Government of the Netherlands has answered that they agree provided the consent of the Parliament. Mr. MAURICE announced that subject to the usual condition that the necessary funds must be voted by Parliament Great Britain was prepared to adhere to the Council for a further period of five years from the 21st July 1926 at the present rate of contribution.

Point 3 of the Agenda (Administrative Report).

The General Secretary gave a short résumé of the Administrative Report, concluding in the following remarks:—

"These are the most important features of the reports where all details will be found.

In my opinion this Administrative Report is an important document. It shows not only the work which has been carried out during the year, and who has done it, but it also reveals our shortcomings. The report I have just read shows that many interesting investigations have been carried out. In particular attention should be drawn to the large work carried out by England and Scotland and the very good reports they deliver about it. It is, however, to be observed that in the North Sea the bulk of the work is carried out by Great Britain and Denmark. In the Baltic no comprehensive Baltic work can be carried out without Germany. It is, in short, a regrettable fact that there is less active co-operation at sea in the Northern waters than before. In the North Sea and off the Norwegian coast formerly 5 steamers, an English, a Scottish, a German, a Norwegian and a Danish, were working, — now only 3, the two British and the Danish. These vessels are better equipped than those in use before the war, and have done good work, but it ought to be one of the most important objects of the Council to secure the active co-operation at sea of all the interested countries, and that each should bear its share of the sea work.

In the Atlantic the work has been much developed since the adherence to the Council of France, Spain and Portugal, and the North Atlantic work has been

consolidated. Portugal has got a special research ship. It is to be hoped that also Spain will acquire a special boat for our purposes.

It will moreover be seen from the Administrative Report that, although elaborate work has been carried out, the Council appears to be somewhat at a standstill in respect of some of its most important problems, viz:— the Herring question, as to which we have received no recent report, the Salmon question, which the Council has not taken seriously in hand since the war, the Plaice question of the North Sea as well as that of the Baltic, and the problems and organisation related to international expeditions, etc. It is to be hoped that the time is not remote when progress will be resumed and useful results achieved. This hope can only be realised by the active and practical co-operation of all the participating countries".

Point 4 of the Agenda (Final approval of the Accounts for 1923—24).

The General Secretary submitted the accounts for 1923—24 to the Council for final approval. He stated that they had been audited and found correct by the Finance Committee, and that the detailed accounts could be inspected at the office. The accounts were approved.

The General Secretary stated that in addition to the examination of the accounts by the Finance Committee he himself and Captain SCHÖNING scrutinized the accounts twice a year. He proposed that in future the accounts should be audited annually by a qualified accountant; he had before him an offer from a firm of accountants in Copenhagen to carry out the audit for Kr. 175 a year.

The President supported the proposal, and it was agreed to.

Point 5 of the Agenda (Statement of Accounts for the financial year 1924—25).

The General Secretary referred to the Statement of Accounts in the Administrative Report which had been printed and distributed. He pointed out that the surplus was due to the fact that Dr. GEHRKE's salary was still on the Estimates although he had not yet been replaced, and that Norway had not this year received the 3000 Kr. voted by Special Resolution of the Council owing to a suggestion of Professor HJORT that this money should not be paid unless a report was received. A saving had also been effected on the vote for publications, and the receipts were raised by a contribution from Poland of Kr. 3000.

The President remarked that the Balance had reached a considerable sum, but thought there would be occasion to draw on it now for publications.

Point 6 of the Agenda (Estimates for the financial year 1925—26) was postponed till a later meeting.

Point 7 of the Agenda (Formation of Sections and Committees).

The President said that the British Delegates had been instructed by their Government to invite the Council to set up a committee to consider the

question of the closure of the Moray Firth to trawling and asked his colleague, Mr. JONES, to explain the position.

Mr. JONES said that this question of closure for British trawlers had been a burning one for a long time, and the Secretary for Scotland was very anxious that the Council should set up a committee to investigate the matter and to report.

The President suggested that the actual nomination of this committee might be left till the other committees were formed. This proposal was accepted.

The President then proceeded to the general question about Committees and Sections. He referred to the Scheme of Reorganisation of the Council's work on regional lines which he had circulated apologizing for the late appearance of the scheme. He stated that the scheme had been discussed by the Bureau and that the Bureau agreed to it subject to certain small modifications.

The scheme, as modified by the Bureau, took the following shape:—

Scheme for the Reorganisation of the Council's work.

(As to the scheme, as modified by the Council, see pp. 58—61).

I. Commissions for Geographical Areas.

Five Commissions should be appointed for five geographical areas, three of which have already been adopted and will probably remain as they are. The five areas would be:—

1) North Sea (including Eastern Channel area).
2) North Eastern Area (everything north of the present middle North Sea area and east of the present area of the North Atlantic Committee's area).
3) Baltic Sea and Skagerack.
4) Atlantic Slope (the area of the present Atlantic Slope Committee west of the Eastern Channel area and south of the Rockall area).
5) North Western Area (the area of the present North Atlantic Committee with the addition of the Rockall area).

Each of the above Commissions will elect its own Chairman or President, who will receive a salary in consideration of the services he will be expected to render. (vide paragraph IV infra).

II. Certain Committees of a non-geographical character.

The present Committees for Plaice, Cod and Haddock and Herring will cease to exist, as will also the Plankton Section and probably also the Hydrographical Section, as each area will be responsible for its own hydrographical and plankton work. The Geographical Commissions will arrange, individually or jointly, for the constitution of such sub-committees for special fish problems as they may think necessary.

It will be necessary to retain the Statistical Committee and the Limnological

Committee, and, of course, the Editorial Committee, which it is suggested should be enlarged by the addition of one or two more members.

III. Functions of the Area Commissions.

1) To consider what are the practical problems arising, or likely to arise, in their areas, and their relative urgency, and to endeavour to reach a practical solution of them; and, for this purpose,
2) To study the stock of selected species of fishes in these areas both quantitatively and relatively to the circumstances of their environment; and, for this purpose,
3) To formulate programmes securing in each area active co-operation of all countries interested in the area,
   a) in biological studies of the stock itself;
   b) in studies of the hydrographical conditions which affect the life and movements of the fishes, and
   c) in the study of the plankton and bottom fauna upon which these fishes feed.
4) To put these programmes into effect.

IV. The duties of the Chairmen of the five Area Commissions will be:—

a) To preside over Meetings of the Commissions and regulate their procedure;
b) To keep in touch with the workers who are to carry out the area programmes, to do all in their power to ensure that the work undertaken is actually carried out in accordance with the programmes, and to obtain from the other workers reports thereon;
c) To prepare annually reports of the work done in the areas, in a form suitable for inclusion in the Administrative Report of the Council; and
d) To represent the Commission on the Advisory Committee referred to in Paragraph V hereunder, and, in particular, to present to the Bureau annual estimates of the financial needs of the Commissions, with explanations of them.

V. Advisory Committee.

The Chairmen of the five area commissions, with the Chairmen of the Statistical and Limnological Committees and the Editor of the Journal, referred to in Paragraph VII hereunder, will form an Advisory Committee which the Bureau can consult as necessity arises, and which will have the right, in regard to all matters affecting the scientific work, to be consulted by the Bureau, and, of its own motion, to advise the Bureau and lay before it the views of the scientific workers.

VI. Publications.

The suggested reorganisation will not only make for more active and efficient co-operation in scientific researches at sea, but should also facilitate the issue by the Council of regular and valuable publications.

The Council should aim at producing the following publications:—

i) Rapports et Procès-Verbaux, including:—
   a) Procès-Verbaux,
   b) General Administrative Report, and
   c) Administrative Reports of the Area Commissions (vide paragraph IV c).

ii) Statistical and (for the present, at any rate) Hydrographical Bulletins.

iii) A Journal containing:—
   1) Half yearly or yearly Abstracts or Reviews of current publications of scientific investigations carried on by or in connection with the Council.
      (It is contemplated that these Abstracts or Reviews would be made by individuals selected by the Editor of the Journal, who would be paid for their services at normal rates for such work.)
   2) Short scientific papers equivalent to the present Publications de Circonstance; and
   3) Such other matters as the Editor may consider suitable.

iv) Scientific Reports published by Special Resolutions of the Council, and

v) Popular Reports, being résumés in simple form of the history and results of scientific investigation of particular problems, published by Special Resolutions of the Council.

VII. Editor of the Journal.

The Council will appoint the Editor of the Journal, who will, *ex officio*, be a Member of the Editorial Committee. It is suggested that he should be suitably remunerated for his services.

If the above suggestions are adopted by the Council without substantial modification, it will follow that the present Convenerships come to an end, and the money at present voted to Conveners will be available for the remuneration of the Chairmen of the Area Commissions.

The President expressed the hope that there would be a free and frank discussion of the scheme and asked Professor Hjort to move its adoption.

Professor Hjort supported the scheme which, he said, did not involve any great alteration of the present arrangements. The co-operation had grown since it was started by the three Scandinavian countries who worked together in the Skagerack in the nineties. One part of the Sea was always dependent on the other parts, so that all marine-biological problems hung together. There are general

problems which are of importance for the whole Sea such as methods for hydrographical and Plankton work, but the stock of a particular species of fish might be quite different in different waters. One must consider the stock of fish in relation to practical problems and it was therefore natural to study it in geographical areas. The Council had already adopted the principle in certain geographical areas, namely the Atlantic Slope, the North Atlantic and the Baltic Sea. The results already achieved had been so encouraging that it seemed reasonable and practical to continue. If the Council adopted the proposal it would be free to alter it if it did not in practice prove satisfactory. It would depend on the problems to be studied what division should be made, this was a detail, the main question was whether the Council should add the two new Area Committees, for his part he thought this would give the organisation a firmer state. Under para V Mr. MAURICE had proposed an Advisory Committee which he thought would be a great help to the Bureau. There was further proposed a sort of reform of publications. For a long time it had been a desire amongst scientific workers (Oceanographers) to have some sort of Journal to make it easier to be au courant with what was done. During the last 30 years there has been established in most sciences for the help and guidance of scientists 1) abstracts, 2) résumés. These should be given not for the purpose of criticism, but simply for bibliographical purposes. The Council should therefore publish a Journal of which one part should consist of abstracts, another part of résumés, and there should be an opportunity to publish in it short papers like Publications de Circonstance. He cited as illustrations the Journal of the Marine Biological Association of the United Kingdom, the Revue Internationale, and other similar publications. It was a matter for consideration whether the contents of the Journal should be confined to the Council's work or to certain geographical areas or should embrace the whole literature of the sciences the Council was interested in.

The President proposed that discussion of the scheme should be divided as follows:—

1) the principle of the general division of work according to geographical areas, and if this were agreed,

2) the definition of areas, and

3) the other points in order.

Professor GILSON pointed out that there must be some overlapping of work from area to area.

The President agreed, but said this would be a matter to be adjusted between the area committees.

Dr. LE DANOIS expressed the view that it was logical to accept the principle. He thought it was unscientific to have two different arrangements of work:—

1) according to subjects.

2) according to localities.

Mr. JONES regretted very much that the proposal was received so late. He doubted whether the Council was justified in departing from the existing arrangements without good cause and cited the discussion which took place at the meeting of the Council in 1921. He thought it very important to consider the whole question thoroughly as there would be many difficulties, for instance in dividing the North Sea. He did not think the work would be more efficient.

Professor VAN EVERDINGEN pointed out that a certain amount of hydrographical work had relation to things happening all over the world and he wanted not to do away with the Hydrographical Committee for general Hydrography.

Dr. LE DANOIS did not think the Council should concern itself with general hydrographical problems. He preferred that the workers should concentrate their efforts — each in his own area.

Mr. BORLEY regretted that there had been so little time to consider the scheme, as the question was difficult. He wished it made clear what was exactly the nature of the division proposed. To be successful it should mean that the committee of an area should work chiefly at the fish most important to their area, but would not necessarily keep their operations within their area. In regard to the actual areas discussed, if the North Sea was left as one area, very little would be accomplished, as the North Sea fisheries were so varied and so great that but little concentration on any area could be effected. The North Sea should be divided into North and South, by a line sloping to the N.E.

Professor HJORT said there appeared to be 2 different opinions, the one that the scheme was revolutionary and the other that it involved very little change at all. He suggested that in the first place two Committees might be formed, one for the North Sea and one for the Sea North-East of it. These Committees should then formulate a plan to put before the Council either this year or next.

The President suggested that the North Sea Committee could sub-divide its area for convenience of administration. He hoped a decision might be reached during this Council meeting, as it would be better, if the plan was to be adopted, to organize the work on the new lines at once. With regard to the complaints that the scheme had been proposed at short notice, he renewed his apologies but ventured the opinion that there was nothing very new about the scheme and that it was not really complicated. The intention was to concentrate effort in areas affected by more or less uniform conditions in the hope that better results might thus be attained. It was simply a question of methods. The chairmen of Committees would meet to discuss questions of mutual interest. One object of the scheme was, by a rational system of decentralisation adopted by the Council as a whole, to avoid the risk of a split in the Council between North and South.

In reply to Professor VAN EVERDINGEN the President remarked that Professor PETTERSSON had already, in the Bureau, urged the claims of general Hydrography. He suggested that, without maintaining a permanent Section, meetings

of Hydrographers could, and of course would be arranged every time the Council met. He shared Dr. LE DANOIS' point of view. He believed that the scheme would facilitate good scientific work and give the scientific workers a more direct part to play in the affairs of the Council.

Professor D'ARCY THOMPSON suggested that the boundaries of areas need not be defined precisely.

Mr. GREEN pointed out that it was an advantage for smaller countries to be in touch with experts of wider experience than was available locally and said he would like to hear more about what would be their position with regard to questions of general application such as the problems of the Herring and of Hydrography.

Professor WITTING from his experiences from the Baltic Committee believed it useful to get more geographical areas with regard to biological work but pointed out that it was a different thing with the hydrographical work. If the Hydrographers had only to give the Biologists the answers they wished the work would be merely circumstantial. He suggested as a compromise — at least for the following years — that there should be a Hydrographical Committee as there would be a Limnological and a Statistical.

Professor OSTENFELD agreed from a purely scientific point of view with Professor VAN EVERDINGEN and on the other hand he agreed with Dr. LE DANOIS' point of view: that Hydrography should be studied primarily in relation to practical fishery work. With regard to Plankton work this should be restricted to the study of Plankton as food of fish. He was glad that it was to be understood that the Hydrographers would meet when the Council met, and thought the same arrangement would suffice with regard to Plankton workers.

The President said that he was not opposed to a Hydrographical Section, but thought the Council should concentrate its work mainly on the study of fish. It was obviously desirable that the material collected should be turned to account for the study of general problems of Hydrography and Plankton, but fish problems should have the first call upon the researchers' services. The President answered to Mr. GREEN that he expected the output of work to increase, not to diminish, and all results would be available for all members of the Council.

Mr. GREEN asked what would be the substitute for the Herring Committee, and the President replied that he assumed that there would be joint arrangements between the Committees of the different areas for the study of special fish problems.

Mr. JONES remarked that one of the main difficulties was the application of the proposal and in view of the concession made with regard to the limits of the areas proposed he was prepared to withdraw his objections to the scheme.

Professor HJORT pointed out that the scheme was a plan of work broadly sketched, and that the details of the sketch would have to be planned by the Area

Committees. In this connection he read point II of the scheme. Each Area Committee could make special fish Committees, if they wanted.

Professor PETTERSSON said that his first impression of the scheme had been a surprise — then curiosity: how will that work? He supposed that the chairmen of the five Area Committees would provide for a good Hydrographer for the local Hydrography. For the general Hydrography there would be the meeting once a year during the Council meeting. He was prepared to support the scheme as an experiment.

Dr. ANDERSSON had not been able to penetrate the consequences; for instance the Plaice Committee. Would there be two Plaice Committees for each of the two North Sea areas? And what about the Skagerack?

The President answered that there was nothing materially altered at all. The chairmen of the two North Sea Committees would arrange between themselves how the work should be done.

Dr. JOHANSEN doubted if the proposal would be practical, but was prepared to advocate giving the scheme a trial. He was not satisfied with the division proposed, and wanted the Skagerack, Kattegat and Belts treated as one area and the Baltic as another.

Professor PETTERSSON proposed as a trial to nominate five presidents for the proposed areas provisionally who could discuss matters with their colleagues before the final discussion.

Professor HJORT thought Professor VAN EVERDINGEN misunderstood the proposals. All agreed that there were two different points of view 1) a general and 2) a local. It was not intended to do away with generalisation. The question was simply how to organise the work with the means at our disposal and to coordinate them. This would not prevent general meetings from being held for the discussion of problems of wide application.

After some further discussion, Professor D'ARCY THOMPSON suggested that the question should first be put whether the existing Fish Committees should be dissolved. The President put this proposal which was adopted.

The President then asked whether it was agreed that Area Committees should be formed for the areas named in the proposal, though possibly with different limits.

The principle of having Area Committees having been adopted the Council proceeded to consider their formation and the definition of the areas. It was first agreed, on the suggestion of the present Conveners, that no alteration should be made of the existing boundary between the North Atlantic Area and that of the Atlantic Slope Committee. It was further agreed, on the suggestion of Dr. LE DANOIS, that the boundary of the last named area in the Channel should be a line drawn between Cherbourg and the Isle of Wight, the waters east of this line being included in the North Sea Area.

It was agreed in principle that the delegates of each country could decide whether they wished to be represented on any committee, and that they should themselves nominate their representatives one for each country.

It was agreed that the existing Baltic Committee should meet and make recommendations concerning the limits of the Baltic Area and the formation of the new Baltic Committee.

It was further agreed that a provisionnal committee should be formed of the countries bordering on the North Sea under the chairmanship of Mr. JONES to make similar recommendations regarding the North Sea Area and Committee, and that the Conveners of the two Atlantic Committees should be *ex officio* members of this provisional committee.

It was agreed that when the northern limit of the North Sea Area had been defined, it would be the southern limit of the North Eastern Area which would otherwise be as proposed.

It was agreed that the two Atlantic Committees should meet as soon as convenient to elect their chairmen, and the Baltic Committee and the provisional North Sea Committee to prepare their recommendations to the Council as indicated above.

The meeting then adjourned.

Second Sitting: Thursday, September 3rd, 1925, at 11,45.

The President, Mr. MAURICE, in the chair.
Present: the members, experts (vide list pp. 5—7).

The first business before the Council was the reports of the regional Committees on the matters referred to them by the Council.

Dr. SCHMIDT reported that he had been elected chairman of the North Western Committee.

Dr. LE DANOIS reported that he had been elected chairman of the Atlantic Slope Committee.

Mr. JONES read the report of the provisional North Sea Committee as follows: —

"In accordance with the resolution of the Council a meeting was convened to set up a special Committee to deal with investigations carried on by them in the North Sea. The Committee duly met Wednesday 2nd Sept. 1925 at 10.30 a.m. under the chairmanship of Mr. D. T. JONES, C.B.E., F.R.S.E.

There was a full attendance and the following resolutions were adopted.

1) That for the purposes of facilitating the work the following limits be fixed as the boundaries of the North Sea.

a) North — the 200 metre line from the Wyville-Thomson ridge to the Skagerak.

b) West — from the eastern edge of the Wyville-Thomson ridge to the Butt of Lewis.
c) South — longitude 2° W in the English Channel.
d) East — 8° E long., in the entrance to the Skagerak.

2) That the Committee meet as a whole to discuss general problems and that for purposes of administration the area be divided into two by a line drawn from Berwick to the 200 m. line in the Skagerak, in the direction of the Naze.
3) That committees be appointed for each of these two areas to be presided over by a chairman who would be a member of the Advisory Committee the chairman for the Southern division to be Mr. Borley and of the Northern Dr. Bowman.

It was decided further that the Committee as a whole be presided over by an Honorary President and that Mr. Jones be appointed to occupy that position.

4) That each country should have one representative on the committees who may be accompanied by one expert.
5) That the following countries be represented on the two area Committees: —

Southern North Sea Committee: —

England, Scotland, Denmark, Holland, France, Belgium, Sweden and Norway.

Northern North Sea Committee: —

England, Scotland, Norway, Denmark, Sweden, Holland and France.

6) That for the sake of continuity the programmes of the Herring, Cod and Haddock and Plaice Committees should be reaffirmed for the year 1925—1926.
7) That at least one month before the annual meeting of the whole Committee at Copenhagen, there be placed in the hands of the members progress reports prepared by each of the two chairmen for the preceding year together with agenda of the business to be discussed prepared by the Honorary President and any papers bearing thereon.
8) That in the nomination of members and experts on the two North Sea Committees provision should be made for the adequate representation of hydrography.

Before proceeding to discuss this proposal the President read the proposal from the Baltic Committee, as follows: —

Resolution I:

Considering their wide differences in hydrographical and biological aspects the Baltic Committee recommends that the Baltic proper and the Transition area from the Baltic to the N.-Sea (including the Belt Sea, the Kattegat and the Skagerak) should constitute two separate geographical areas.

The boundaries defining these areas should be given in the following manner:—

1) The Baltic Proper including the Gulf of Bothnia, the Finnish Bight and the Central Baltic to Bornholm.
2) The Transition Area including the S.-Baltic from Bornholm, the Belts, the Sound, the Kattegat and the Skagerak.

Resolution II:

The Baltic Committee considers it most desirable that Hydrography as well as Biology should be fully represented on the geographical committees and that for this purpose each country should be allowed to send two representatives, whether delegates or experts, to each committee in which it desires to participate.

The President proposed that, as both Committees had proposed to divide their areas and appoint two chairmen, this particular aspect of the reports should first be considered. He pointed out that it was intended that the chairmen of the regional committees should form the Advisory Committee. The Bureau was anxious that this Committee should not be too large, and had, therefore, decided to propose that, should an area be divided under two chairmen, it must be decided in a joint meeting which of the two chairmen shall represent the area on the Advisory Committee.

Professor Witting said that it was to be preferred that the Baltic and the Transition Area should be independent with a chairman for each, and that he personally did not object to only one of these being a member of the Advisory Committee.

Mr. Jones protested against the North Sea being treated in the same way, and

Dr. Russell supported him saying that the North Sea was of far greater importance than the Baltic.

Dr. le Danois expressed the same point of view adding that, if the Baltic should be represented by two members in the Advisory Committee the same ought to be the case for the Atlantic Slope Committee.

After further discussion it was agreed that there should be two paid chairmen for the Baltic and two for the North Sea. That one of the Baltic chairmen should be elected by the Baltic Committee as a whole to serve on the Advisory Committee, and that both chairmen of the North Sea area should be members of the Advisory Committee.

The President then read the resolutions of the North Sea Committee point by point. All were agreed to.

He then turned to the Baltic Committee's resolutions which were approved.

The President asked for lists of all members of all Committees for the Procès-Verbaux, and added that the Bureau had some proposals with regard to the nomenclature:

1) That heads of the Committees should be called chairmen, in order to avoid confusion.
2) That the Joint Committee of chairmen etc. should be called the Consultative Committee.

This was agreed to.

Points III and IV of the Scheme — Functions of Area Committees and Duties of Chairmen — were agreed to.

The President then proposed that the Consultative Committee should be formed of the chairmen of the Atlantic Slope, North Western and North Eastern Committees, the two chairmen of the North Sea Areas, one of the two chairmen for the Baltic and the Editor of the Journal; and further that the Hydrographical Consultant, the chairman of the Statistical Committee and the chairman of the Limnological Committee should be supernumerary members to be invited as occasion required.

Professor PETTERSSON asked if the chairman of the Editorial Committee should not be a member of the Consultative Committee.

The President answered that the chairman of the Editorial Committee would, he assumed, always be a member of the Bureau, and that it was therefore, unnecessary to appoint him to the Consultative Committee.

Professor VAN EVERDINGEN said that in the meeting of the Hydrographical Committee it was strongly recommended that the Hydrographical Committee should continue in existence. It was further recommended that the chairman of the Hydrographical Committee should be a member of the Consultative Committee on the same footing as the chairmen of the Area Committees. He was glad that the Bureau had met the wishes of the Committee to a certain degree, but laid much stress upon the chairman being an ordinary member of the Consultative Committee.

Professor PETTERSSON asked the President, if it was the intention that when the Consultative Committee was called together to meet the Bureau they should be all called, or if they should be called separately.

The President said he thought it should be left to the chairman of the Consultative Committee to decide what members should be summoned. He anticipated that the views of the Committee would often be laid before the Bureau by the chairman alone.

It was then agreed that the chairman of the Hydrographical Committee, who is identical with the Hydrographical Consultant, should be an ordinary member of the Consultative Committee.

The President then put to the Council the proposal to elect an Editor of the Journal with the functions described in the scheme as circulated.

This was agreed to.

On the proposal of Professor PETTERSSON, seconded by Professor JOUBIN and Colonel CHAVES, Dr. RUSSELL was elected Editor of the Journal.

The Consultative Committee was then formally constituted as follows: —

Dr. LE DANOIS (Atlantic Slope),
Dr. SCHMIDT (North Western Area),
Dr. BOWMAN (Northern North Sea Area),
Mr. BORLEY (Southern — — —),
a representative of the Baltic Committee,
Professor HJORT (North Eastern Area),
Dr. RUSSELL, Editor,
Professor KNUDSEN, chairman of the Hydrographical Committee.

Supernumerary Members:—
Professor D'ARCY THOMPSON (Statistical Committee),
Dr. REDEKE (Limnological Committee),
Professor C. H. OSTENFELD (Plankton Committee).

On the motion of the President Professor HJORT was elected chairman of the Committee.

Dr. REDEKE was elected chairman of the Limnological Committee, and Professor D'ARCY THOMPSON of the Statistical.

The President then asked Professor HJORT to call a meeting of the Consultative Committee.

The present members of the Editorial Committee were then reelected, and as the functions of this Committee would be heavier than heretofore the President proposed one more member in addition to the Editor of the Journal should be elected. This was approved, and Professor JOUBIN was elected to be an additional member of the Editorial Committee, the members of which will now be: —

Professor PETTERSSON, chairman,
— D'ARCY THOMPSON,
— G. GILSON,
— M. KNUDSEN,
— L. JOUBIN,
Dr. E. S. RUSSELL and
The General Secretary.

The meeting then adjourned.

Third Sitting: Friday, September 4th, 1925, at 5 p.m.

The President, Mr. MAURICE, in the chair.
Present: the members, experts (vide list pp. 5—7).

The President opened the meeting and stated that in accordance with the decision of the first sitting of the Council the following telegram had been sent to His Majesty the King of Denmark:—

A Sa Majesté le Roi de Danemark, Dannebrog.

Les membres du Conseil International pour l'Exploration de la Mer réunis à Copenhague demandent la permission de témoigner à Votre Majesté leurs sentiments les plus respectueux. MAURICE, Président, Merexploration, Copenhague.

In reply to this the following telegram had been received from the King:—

Mes remerciements sincères. CHRISTIAN R.

Reports and programmes of the Committees.

Atlantic Slope Committee. The President drew attention to the resolution attached by the Committee to its programme of work with regard to the inclusion of all figures of temperatures, salinity etc. in the Rapport Atlantique.

The Committee's programme was adopted.

North Eastern Area Committee. The North Eastern Area Committee had not yet framed a programme, but handed in the following recommendation on matters of administration:—

That a committee be formed to deal with investigations in the North Eastern Area which would have as its western boundary the 1000 metre line and as its southern the 200 metre line as far as the Wyville-Thomson ridge and the Skagerack and that the following countries be represented in the committee by one official representative and one expert: Norway, England, Scotland, France, Sweden, Denmark,

and that Prof. HJORT be appointed Chairman of the Committee.

The recommendations of the Committee including the names of members (which are printed elsewhere, pp. 36—39) were adopted.

Hydrographical Committee. The programme distributed was adopted.

Statistical Committee. The programme distributed was adopted.

Baltic Committee. The proposals of the Baltic Committee regarding future work were adopted.

North Western Area Committee. The programme of this Committee was adopted.

Limnological Committee. The President drew special attention to point II of the Committee's programme, and urged that the Limnological Committee should take up seriously the subject of the pollution of rivers. He described briefly the work of the Pollution Committee in England, and asked that the report which it was suggested that the chairman should prepare should include the subject of the practical treatment of polluting effluents. He proposed that the Chairman of the Committee should be asked to prepare a comprehensive report on these lines and asked for a Special Resolution of the Council to pay him the sum of Kr. 3,000 for this work.

Professor PETTERSSON supported this proposal, and it was then accepted.

The report of the Committee was approved with this addition.

Plankton Committee. Professor OSTENFELD proposed to postpone his

proposal to nominate a Plankton Assistant until next Council Meeting in order to be better able to decide whether it would be desirable to nominate such an assistant under the new organisation or not.

The President stated that as a Plankton Bulletin no longer regularly appeared, Professor OSTENFELD had proposed to retire from his position as Editor for Plankton and act as an honorary advisor in Plankton questions and the President therefore proposed a vote of the Council's grateful thanks for the services rendered by Professor OSTENFELD in the past and for those to be rendered by him in future as an honorary advisor. The vote was heartily accorded.

Special Committee for closure of the Moray Firth to trawling. At the request of the British delegates the Council resolved to set up a Committee to consider the question of the closure of the Moray Firth to trawling consisting of the following members, viz:—

Professor HJORT, chairman,
Dr. SCHMIDT,
Dr. REDEKE,
Professor GILSON,
Dr. RUSSELL,
Dr. BOWMAN,

and that Professor HJORT should in the first instance consult with the British delegates as to the precise terms of reference to the Committee.

Editorial Committee. Before calling on Professor PETTERSSON for a report of the meeting of the Editorial Committee the President wished to point out that there would be 5 different kinds of publications:—

1) Procès-Verbaux with the Administrative Report (including the Administrative Reports of the Areas).
2) Rapports i. e. Scientific Reports published by Special Resolution of the Council. All of these would be published in the present series of Rapports & Procès-Verbaux. Bulletins prepared by the chairmen of Area Committees will be included in this series of Rapports.
3) Popular Reports being simple accounts of scientific work for the information of fishermen and others. These will form a new series.
4) The Journal, which will include scientific papers now usually published as Publications de Circonstance.
5) The Statistical and Hydrographical Bulletins.

Professor PETTERSSON gave a sketch of the resolutions of the Editorial Committee and proposed that the report of this Committee's meeting should be circulated to the delegates. This was agreed to.

The President referred to the recommendation 5b) of the Consultative

Committee that adequate time should be given to the Area Committees for the full consideration of their agenda and other scientific discussions. He said he felt that this suggestion was intended to apply also to the Council Meetings, and expressed the hope that future meetings of the Council might be spread over a longer period and more time thus given for scientific lectures and discussions.

Point 9 of the Agenda (Communications about the Plaice and the Hydrographical Meetings at Amsterdam in March, 1925, and about the Council being represented at the 100 years jubilee of the Bergen Museum).

The President referred to the reports on the Hydrographical and Plaice Meetings at Amsterdam. With regard to the former, the question had been deferred till next meeting. With regard to the recommendation that the Governments concerned should send representatives to London to a Conference for discussion of what measures could be taken for the protection of the stock of Plaice in the North Sea, he said he anticipated that a Conference would be held in London in the winter.

With regard to the representation of the Council at the 100 years jubilee of the Bergen Museum the President said that he was asked by Professor Hjort, who had represented the Council at the request of the Bureau, to state that the proceedings were of a merely formal and complimentary character.

Point 10 of the Agenda (Communication about international proposals in connection with the Congress of the Union Géodésique et Géophysique internationale (Section d'Océanographie) at Madrid in October 1924).

Captain Drechsel reported as follows:—

Vous vous rappelez, sans doute, la proposition faite par Monsieur le Professeur Pettersson et par moi à la réunion du Conseil à Paris en 1923 à l'effet d'entreprendre une grande étude internationale des océans du monde entier. Aucun rapport ou communication n'ayant paru à ce sujet depuis lors, j'ai l'honneur de vous faire parvenir pour ce point de l'ordre du jour, quelques mots sur ce qui s'est passé entretemps.

On se rappelle que ladite proposition était basée sur l'achat du bateau de recherche l'"Hirondelle" qui appartenait au Prince de Monaco. Nous avons eu une chance pour l'acquisition de ce navire. Cependant, nous n'avons pu faire un tel achat — cela va de soi — sans avoir assuré les moyens nécessaires pour l'emploi d'un tel navire ainsi que pour l'équipement complet que réclamerait une telle expédition. Sans compter les difficultés qui se rattachaient à cet achat, le temps de prendre nos mesures à cet égard nous manqua, car le Prince de Monaco, très désireux de vendre le bateau, accepta une proposition américaine. Il vendit le bateau et c'est ainsi que s'est échappé pour nous cette occasion de nous procurer un navire particulièrement adapté et aménagé à notre but. Ainsi s'est évanouie la possibilité de réalisation de notre projet.

En cours des négociations qui eurent lieu alors, une correspondance assez volumineuse et utile avec des savants et des institutions océanographiques des différents pays fut engagée par M. Pettersson et moi. Vous trouverez dans le petit mémorandum distribué, quelques-unes des lettres échangées et des extraits tirés des observations les plus importantes, et, vous y verrez non seulement les divergeances d'opinion qu'il y a eu au sujet de la mise en oeuvre d'une telle recherche des océans mais aussi des propositions définies. Certains pensent qu'au lieu de faire l'acquisition d'un grand bateau tel que l'"Hirondelle", il faudrait se servir de plusieurs petits navires qui pourraient simultanément faire des recherches dans les différentes régions suivant un programme commun; d'autres recommandent la reprise de la célèbre croisière mondiale du "Challenger", tandis que d'autres encore ont soutenu, qu'au moins au début, tout le travail devrait être limité à l'Atlantique et que les nations intéressées adopteraient leur type de navire préféré.

Puisqu'il fallait considérer comme en suspens la réalisation du projet d'achat ou de construction d'un bateau en vue d'une expédition mondiale comme celle du "Challenger", il semblait utile de considérer les différentes opinions et propositions présentées.

La réunion de l'"Union Géodésique et Géophysique Internationale" (Section d'Océanographie) à Madrid, en octobre 1924, offrit une occasion favorable à ce but. La section d'océanographie eut lieu sous la présidence de notre éminent collègue, Monsieur le Professeur Odón de Buen, qui avait dirigé la réception des congressistes et leur travail d'une manière parfaite. A la première séance de la Section, il fut présenté à l'Assemblée une proposition de la part de l'Union Géophysique américaine, demandant l'ouverture d'une discussion à l'effet de savoir si l'Union Géodésique et Géophysique Internationale devait invoquer, par une résolution adressée au Conseil de Recherche Internationale, une coopération internationale à l'appui de la proposition comportant une expédition de recherche mondiale. Cette proposition américaine détermina une discussion d'où est sorti le voeu qu'il soit créé un Comité en vue d'examiner la possibilité de fonder une organisation internationale de recherche à la mer. Ce Comité comprendrait les membres du Bureau des différentes commissions internationales pour ces recherches en Europe, comme en Amérique, avec le concours des spécialistes intéressés à cette question.

Enfin, le Conseil International de Recherches (l'Union Internationale des Sciences biologiques) a émis dans une séance du 27 juillet 1925, le voeu de voir organisée par la coopération internationale, une exploration aussi complète que possible de tous les océans du globe.

Tel est l'exposé de ce qui s'est passé jusqu'à présent. Cependant, une proposition de la part de M. le Professeur Odón de Buen vient d'être communiquée à notre Président M. Maurice, qui peut-être en donnera connaissance au Conseil.

Le Président fit lecture de cette proposition portant:

Qu'une Commission provisionelle formée par 5 membres étudie la proposition de MM. PETTERSSON et DRECHSEL relative à la campagne internationale.

Que de cette Commission un ou plusieurs délégués assistent à la première réunion du Bureau de la Section d'Océanographie de l'Union internationale géodésique et géophysique, pour solliciter de cette dernière la nomination d'autres délégués qui puissent constituer une Commission mixte chargée de mettre en pratique les moyens les plus opportuns en vue de la réalisation du projet.

The President proposed to ask Professor DE BUEN to get into touch with the persons responsible for the national expeditions now in being and enquire whether it would be agreeable for them that such a Committee, as he suggested, should be formed, and that he should report next year.

Professor DE BUEN declared that he should be pleased to accept the President's suggestion, but that he should prefer to study this project in co-operation with some other members of the Council.

The President answered that he had always found the most effective Committee to be the Committee of one, but, as Professor DE BUEN desired to have the assistance of other members, he would suggest that these should be the authors of the proposal regarding a world-wide expedition.

This was agreed to.

Point 11 of the Agenda (Appointment of a permanent hydrographer to the vacant place at the Bureau).

The President said that the Bureau proposed that a Hydrographical Assistant should be appointed temporarily for one year only by the President and the General Secretary in consultation with Professor KNUDSEN.

Professor HJORT said he hoped it was clearly understood that a decision was to be taken next year on the question of the appointment of a hydrographer with larger functions and responsibilities.

The President said the Bureau hoped that the delegates would in the meantime make inquiries as to the possibility of getting a qualified Hydrographical Assistant to work in the Head Office.

Point 6 of the Agenda (Estimates for the financial year 1925—26). The President referred to the Estimates circulated and went through the Estimate of expenditure item by item indicating the increases involved by the Council's resolutions.

He asked the Council to approve certain increments of the salaries of the staff of the Bureau and these were approved.

He further asked the Council to approve the proposal of the Hydrographical Committee regarding the preparation of a report on current meter observations. This would involve an expenditure of about Kr. 10,500 apart from printing and

would necessitate drawing on the reserve, which, however, was large enough. This was approved.

The Estimates were then approved as amended.

Professor VAN EVERDINGEN asked, if Professor KNUDSEN should no longer be responsible for the production of the Hydrographical Bulletin and the President answered that he would have all the responsibility of the Council's Consultant, but that the Bulletin would now contain figures only and could be prepared in the office.

Point 12 of the Agenda (Nomination of the members of the Bureau and the Financial Committee).

On the proposal of the President the following members were elected as members of the Financial Committee:—

The President,
Mr. JONES,
M. LECOURBE,
Professor VAN EVERDINGEN,
Dr. G. EKMAN.

Professor JOUBIN proposed that the members of the Bureau be reelected. (Applause.)

The President thanked the Council for this renewal of their confidence in the Bureau.

Point 13 of the Agenda (Other business).

The President said that the British delegates were instructed to invite the Council to take up certain experiments with different meshes in trawl nets on lines which Dr. RUSSELL had followed with promising results. He asked the chairmen of the Area Committees to discuss the matter with Dr. RUSSELL with a view to similar experiments.

Proposals from Professor ODÓN DE BUEN:—

1) Le Dr. ODÓN DE BUEN propose au Bureau la constitution d'une Commission spéciale pour l'étude du problème de la conservation de la Baleine ainsi que des grands cétacés, pour arriver à une convention internationale qui assurera l'exploitation rationnelle de ces cétacés et qui évitera le danger de la disparition complète de ces importantes espèces.

La Commission pourrait se composer de 5 délégués, que présidera le Professeur HJORT.

The President said that the proposal had been considered by the Bureau, and called upon Professor HJORT.

Professor HJORT said that he had considered the matter, but thought it difficult to form a Committee in so short a time. He offered to prepare a memorandum on the question to be considered during the next Council Meeting. Professor DE BUEN agreed hereto, and it was agreed to postpone the formation of a special Committee.

2) Le Bureau de la section d'Océanographie de l'Union internationale géodésique et géophysique publie une bibliographie (Hydrographie-Biologie-Pêches) dans des conditions déterminées.

Il serait désirable que le rédacteur du Journal du Conseil International pour l'Exploration de la Mer se mette en rapport avec ce bureau océanographique pour éviter, si possible, un travail et des dépenses inutiles comme faisant double emploi.

The President proposed that the Editor of the Journal should be asked to communicate with the institution in question. This was agreed to.

Professor van EVERDINGEN wished to propose a motion with a view to facilitating the re-entry of Germany to the Council. The President, however, pointed out that this question had been dealt with through the usual diplomatic channels, and that the only obstacle to the re-entry of Germany was a misunderstanding on the subject of the language to be used in official proceedings; that was a matter for the Council to settle, and he did not think it could be brought under discussion now. The Bureau would, however, do their best to clear up the existing misunderstanding. Professor van EVERDINGEN accordingly, at the President's request, did not press the question.

Point 14 of the Agenda (Conclusion of the meeting).

The President proposed a hearty vote of thanks to the General Secretary for his work for the Council, which was passed by an acclamation.

In returning thanks, the General Secretary said that whatever he had been able to accomplish had been largely due to the support he received from his colleagues in the Bureau. He added that owing to the reorganisation difficulties might arrive leading into mistakes, and asked the members to be kind enough to write and tell him, if such mistakes should happen.

Professor PETTERSSON asked the General Secretary to present to the Danish Government's Ministry for Agriculture the Council's sincere thanks for their hospitality and to accept the Council's thanks to himself for the excellent arrangements he had made on behalf of this Ministry for the comfort of the Council.

The President finally proposed a vote of thanks, which was heartily accorded, to the staff for their work in connection with the meeting and with the work of the Council generally.

The meeting then terminated.

ESTIMATE

of

the International Council for the Study of the Sea for the financial year 1925—26

Receipts:-

Head	No.	Item	Kroner	Kroner
				*)
I	1	**Balance** on the 21st July 1925 ..... estimated		169.000,00
II		**Annual Contributions** of the Governments for 1925-26:-		
	2	Belgium	5,000,00	
	3	Great Britain	25,000,00	
	4	Denmark	10,000,00	
	5	Finland	5,000,00	
	6	France	25,000,00	
	7	Ireland	10,000,00	
	8	Netherlands	10,000,00	
	9	Norway	10,000,00	
	10	Portugal	5,000,00	
	11	Spain	25,000,00	
	12	Sweden	10,000,00	
	13	Latvia	2,000,00	
	14	Poland	3,000,00	
	15	Esthonia		
III		**Interests:-**	145,000,00	
	16	Kr. 51,600,00 Danish Treasure Bill à 5%	2,580,00	
	17	Interests from the Bank ..... estimated	4,500,00	
IV	18	Sales of publications	200,00	152,280,00
		Total Receipts...		321,280,00

*) **Balance:-**

Kr. 49,069,02 Danish Treasure Bill
„ 118,630,98 Cash & deposited in the Handelsbank.
„ 1,300,00 Special reserve for pensions deposited in the Handelsbank.

Kr. 169,000,00

Expenditures:-

Head	No.	Item	Kroner	Kroner
I		**Incidental expenses:-**		
	1	President	6,000,00	
	2	General Secretary	15,000,00	
	3	Chairman of the Editorial Committee	2,000,00	
	4	Hydrographical Consultant	3,000,00	
	5	Editor for Statistics	2,000,00	
	6	Editor of the Journal	3,000,00	
II		**Assistance:-**	31,000,00	31,000,00
	7	1st Assistant Secretary	6,000,00	
	8	2nd Assistant Secretary	5,000,00	
	9	Hydrographical Department	9,000,00	
	10	Statistical Department	9,750,00	
	11	Expenses for Plankton work	3,000,00	
			32,750,00	32,750,00
		carried forward...		63,750,00

Head	No.	Item	Kroner	Kroner
		Brought forward...		63,750,00
III	12	**Expenses of the office in Copenhagen:-** Rent, service, heating, stationery, books, binding of books, light, gas, telephone, telegrams, insurance, postage, freights, typewriting and other expenses	14,800,00	14,800,00
IV	13	**Travelling expenses**	13,000,00	13,000,00
V	14	**Chairmen of Committees**	21,000,00	21,000,00
VI	15	**Special Resolutions** of the Council	14,500,00	14,500,00
VII	16	**Printing and distribution**	35,000,00	35,000,00
		Total expenditures...		162,050,00

Remarks to Estimate (1925—26)

Item 9. Includes Kr. 8,000,00 for the successor to Dr. Gehrke and Kr. 1,000,00 for incidental assistance.

Item 13. Kr. 6,000,00 added to meet travelling expenses of Committees and their chairmen, and the Editor of the Journal.

Item 14. The Chairmen of Committees concerned are Dr. Schmidt, Dr. le Danois, Mr. Borley, Dr. Bowman, Dr. Johansen, Dr. Andersson and Professor Hjort.

Item 15. Special Resolutions of the Council, include 1,000 Kr. to Mrs. Gehrke, 3,000 Kr. for a report on the pollution of rivers to be prepared by Dr. Redeke and 10,500 Kr. for a special report on current measurements.

The following is a list of members of Committees:—

Atlantic Slope Committee.

France:	Dr. Ed. le Danois, chairman,
	Professor L. Joubin,
	Professor L. Roule,
England:	Dr. E. J. Allen,
	Dr. E. S. Russell,
Irish Free State:	Mr. G. P. Farran,
Portugal:	Colonel F. A. Chaves,
Spain:	Professor Rafael de Buen,
	Professor José Giral.

North Western Area Committee.

Denmark:	Dr. Johs. Schmidt, chairman,
England:	Dr. E. S. Russell,
France:	Dr. Ed. le Danois,
Norway:	Mr. Oscar Sund,
Scotland:	Dr. A. Bowman.

North Eastern Area Committee.

Norway:	Professor Johan Hjort, chairman,
Denmark:	Dr. Johs. Schmidt,
England:	Dr. E. S. Russell,
France:	Commandant Charcot,
	failing him Dr. Ed. le Danois,
Scotland:	Dr. R. S. Clark,
Sweden:	Dr. K. A. Andersson,
	Dr. G. Ekman.

Combined North Sea Committee.

Mr. David T. Jones, chairman.

Northern North Sea Committee.

Scotland:	Dr. A. Bowman, chairman,
Denmark:	Dr. Johs. Schmidt,
England:	Mr. J. O. Borley,
France:	M. le Gall,
Holland:	Dr. J. J. Tesch,

Norway:	Mr. Oscar Sund,
Sweden:	Professor O. Pettersson,
	Dr. A. R. Molander.

Southern North Sea Committee.

England:	Mr. J. O. Borley, chairman,
Belgium:	Professor G. Gilson,
Denmark:	Dr. A. C. Johansen,
France:	Dr. Ed. le Danois,
Holland:	Dr. H. C. Redeke,
Norway:	Mr. Paul Bjerkan,
Scotland:	Dr. A. Bowman,
Sweden:	Dr. K. A. Andersson.

Baltic Area Committee.

Sweden:	Dr. K. A. Andersson, chairman,
	Dr. H. Pettersson,
Denmark:	Dr. A. C. Johansen,
	Professor Martin Knudsen,
Esthonia:	—
Finland:	Professor R. Witting,
	Professor T. H. Järvi,
Latvia:	Mr. V. Miezis,
Poland:	Professor M. Siedlecki,
	Professor J. Smolenski.

Transition Area Committee.

Denmark:	Dr. A. C. Johansen, chairman,
	Professor Martin Knudsen,
Norway:	Mr. Paul Bjerkan,
Sweden:	Professor O. Pettersson,
	Dr. K. A. Andersson.

Statistical Committee.

Scotland:	Professor D'Arcy W. Thompson, chairman,
Belgium:	Professor G. Gilson,
England:	Dr. E. S. Russell,
Finland:	Professor T. H. Järvi,
France:	M. G. Lecourbe,
Holland:	Dr. H. C. Redeke,
Irish Free State:	Mr. C. Green,

Latvia:	Mr. V. Miezis,
Norway:	Mr. S. K. Asserson,
Poland:	Mr. J. Borowik,
Spain:	Captain José Lassaletto,
	Dr. Fernando de Buen,
Sweden:	Dr. K. A. Andersson.

Hydrographical Committee.

Denmark:	Professor Martin Knudsen, chairman,
Belgium:	Professor G. Gilson,
England:	Mr. J. O. Borley,
Irish Free State:	Mr. G. P. Farran,
Latvia:	Mr. V. Miezis,
Norway:	Mr. Oscar Sund,
Poland:	—
Spain:	M. Léon Herrero,
	Professor José Giral,
	failing them Professor Rafael de Buen,
Scotland:	Professor D'Arcy W. Thompson,
Sweden:	Professor O. Pettersson.

Plankton Committee.

Denmark:	Professor C. H. Ostenfeld, chairman,
Belgium:	Professor G. Gilson,
Holland:	Dr. J. J. Tesch,
Irish Free State:	Mr. G. P. Farran,
Latvia:	Mr. V. Miezis,
Norway:	Mr. Paul Bjerkan,
Poland:	Dr. A. Litynski,
Scotland:	Dr. R. S. Clark,
Spain:	Dr. Juan Cuesta Urcelay,
Sweden:	Dr. K. A. Andersson.

Limnological Committee.

Holland:	Dr. H. C. Redeke, chairman,
Denmark:	Dr. A. C. Johansen,
Finland:	Professor T. H. Järvi,
France:	Professor L. Roule,
Irish Free State:	Mr. R. Southern,
Poland:	Professor M. Siedlecki,
	Dr. F. E. Lubecki,
Spain:	Dr. Fernando de Buen.

Consultative Commitee.

Professor JOHAN HJORT, chairman,
Mr. J. O. BORLEY,
Dr. A. BOWMAN,
Dr. ED. LE DANOIS,
Dr. A. C. JOHANSEN,
Professor MARTIN KNUDSEN,
Dr. E. S. RUSSELL,
Dr. JOHS. SCHMIDT.

Supernumerary members:—

Professor D'ARCY W. THOMPSON,
Professor C. H. OSTENFELD,
Dr. H. C. REDEKE,

Special Committee for the closure of Moray Firth to trawling.

Professor JOHAN HJORT, chairman,
Dr. JOHS. SCHMIDT,
Dr. H. C. REDEKE,
Professor G. GILSON,
Dr. E. S. RUSSELL,
Dr. A. BOWMAN.

Programmes and Recommendations of Committees and Sections adopted by the Council.

Atlantic Slope Committee.

Chairman: Dr. Ed. le Danois.

1) With a view to continuing the study of hydrographical and biological conditions in the Bay of Gascony, periodical cruises will be made, every three months if possible, by the Governments of France, Spain and the Irish Free State, the conditions being as follows:

Spain:	8° W from the coast to 47° N.
	47° N between 8° W and 9° W.
	9° W from 47° N to the coast of Spain.
France:	From Ushant to 49° N—8° W.
	8° W from 49° N to 47° N.
	From 47° N, 8° W, to Ushant.
Ireland:	8° W from the coast to 49° N.
	49° N between 8° and 9° W.
	9° W from 49° N to the coast of Ireland.

These cruises will be made as far as possible during the months of February, May, August and November.

2) The study of the eastern Channel will be undertaken by the British Government, in the form of periodical cruises by the vessel of the M.B.A., in accordance with the plan submitted by Dr. Allen.
3) The Irish Free State will undertake cruises to the south-west of Ireland, according to programme, with a view to determining the position of the 35.5 $^{0}/_{00}$ isohaline.
4) The studies of this Committee will be extended southward to the regions of Madeira, the Azores, the Cape Verde Islands and the Canaries.
5) Portugal and Spain will arrange for combined study in the Bay of Biscay.
6) Investigations in the neighbourhood of Gibraltar will be made so as to accord with those of the Mediterranean Commission.
7) Investigations on hake, common tunny, long finned tunny and sardine will be continued in their present form.
8) Investigation of the races of herring will be combined and developed in the eastern Channel and in the waters to the S.W. of the British Isles.

Programmes et Recommandations des Comités & Sections adoptés par le Conseil.

Comité du Plateau Continental Atlantique.

Président: Dr. Ed. le Danois.

1) En vue de continuer l'étude des conditions hydrographiques et biologiques dans le Golfe de Gascogne, des croisières périodiques, trimestrielles si possible, seront effectuées par les Gouvernements de la France, de l'Espagne et de l'État libre d'Irlande dans les conditions suivantes:

Espagne: 8° W. G. de la côte jusqu'au 47° N.
47° N. entre 8° W. G. et 9° W. G.
9° W. G. du 47° N. à la côte d'Espagne.
France: d'Ouessant à 49° N.—8° W. G.
8° W. G. de 49° N. à 47° N.
de 47° N.—8° W. G. à Ouessant.
Irlande: 8° W. G. de la côte jusqu'au 49° N.
49° N. entre 8° W. G. et 9° W. G.
9° W. G. du 49° N. à la côte d'Irlande.

Ces croisières auront lieu autant que possible aux mois de Février, Mai, Août et Novembre.

2) L'étude de la Manche Occidentale sera faite par les soins du Gouvernement de Grande Bretagne sous forme de croisières périodiques exécutées par le navire de la M.B.A. conformément au plan présenté par M. le Dr. Allen.
3) L'État libre d'Irlande exécutera des croisières au S.W. de cette île selon le programme actuel afin de préciser la position de la ligne isohaline 35,5 $^{0}/_{00}$.
4) Les études du Comité seront étendues vers le sud dans les régions de Madère, des Açores, des Iles de Cap Verd et des Iles Canaries.
5) Le Portugal et l'Espagne feront un accord pour une étude combinée dans la baie d'Espagne.
6) Les recherches avoisinant Gibraltar seront faites en accord avec celles de la Commission de la Méditerranée.
7) Les études sur le merlu, le thon rouge, le germon, la sardine seront continuées sous la forme actuelle.
8) L'étude des races de hareng sera combinée et développée dans la Manche Occidentale et dans la region S.W. des îles Britanniques.

Resolution:

The Committee for the Atlantic Slope unanimously agrees to take the initiative in publishing, in its special report, the numerical data concerning temperature and salinity etc. of the stations comprised in its sector, and hopes that this example will be followed by the other geographical Committees of the International Council.

North Western Area Committee.

Chairman: Dr. Johs. Schmidt.

Denmark.

From the Dana:

1) Special Trawling investigations at fixed Stations at Iceland and Faroes.
2) Stomach contents of Herring should be studied in relation to the Plankton.

From various ships:

3) Continuation of Hydrographical and Biological investigations at one or more fixed Stations in Faxa Bay.
4) Continuation of marking experiments with Cod and Plaice.

England.

1) Fish measurements and otolith collections.
2) General Statistics.

France.

1) Hydrographical observations from the French cruiser at Iceland.
2) Provisional Hydrographical and Biological work from the "Pourquoi Pas" by Commandant Charcot.

Norway.

1) Collection of Halibut material to be arranged.

Scotland.

1) Fish measurements and Otolith collections.
2) General Statistics.
3) Trawling investigations at Faroes and West of Scotland.

Baltic Committee.

1. Considering their wide differences in hydrographical and biological aspects the Baltic Committee recommends that the Baltic proper and the Transition area

Résolution.

Le Comité du Plateau Continental Atlantique prend l'initiative à l'unanimité de publier dans son rapport particulier les données numériques concernant les températures, salinités, etc. des Stations effectuées dans son secteur et espère que cet exemple sera suivi dans les autres comités géographiques du Conseil International.

Comité de l'Aire Nord-Ouest.

Président: Dr. Johs. Schmidt.

Danemark.

Du Dana:

1) Recherches spéciales de chalutage à des stations fixes en Islande et aux Faroes.
2) Le contenu stomacal du hareng devra être étudié dans ses rapports avec le plancton.

De divers navires:

3) Continuation des investigations hydrographiques et biologiques à une ou plusieurs stations de la baie de Faxa.
4) Continuation des expériences de marquage sur le cabillaud et la plie.

Angleterre.

1) Mesurage de poissons et prises d'otolithes.
2) Statistique générale.

France.

1) Observations hydrographiques du croiseur français en Islande.
2) Travail hydrographique et biologique provisoire du "Pourquoi pas" par le Commandant Charcot.

Norvège.

1) Réunion de matériel pour le Flétan, à organiser.

Écosse.

1) Mesurage de poissons et prises d'otolithes.
2) Statistique générale.
3) Recherches de chalutage aux Faroes et dans l'Ouest de l'Ecosse.

Comité Baltique.

1. Le Comité baltique, considérant les grandes différences qui séparent au point de vue hydrographique et biologique l'Aire baltique propre de l'Aire de

from the Baltic to the N.-Sea (including the Belt Sea, the Kattegat and the Skagerak) should constitute two separate geographical areas.

The boundaries defining these areas should be given in the following manner:

1) The Baltic Proper including the Gulf of Bothnia, the Finnish Bight and the Central Baltic to Bornholm.
2) The Transition Area including the S.-Baltic from Bornhòlm, the Belts, the Sound, the Kattegat and the Skagerack.

2. The Baltic Committee considers it most desirable that Hydrography as well as Biology should be fully represented on the geographical committees and that for this purpose each country should be allowed to send two representatives, whether delegates or experts, to each committee in which it desires to participate.

Transition and Baltic Areas Committee.

The joint Committee for the Transition and Baltic Areas has elected Dr. A. C. JOHANSEN as a member of the Consultative Committee, to be replaced if needed by Dr. K. A. ANDERSSON.

The countries joining the Transition Area Committee are: Denmark Norway, Sweden.

The Countries joining the Baltic Area Committee are: Denmark Esthonia, Finland, Latvia, Poland, Sweden.

Baltic Area Committee.
Chairman: Dr. K. A. ANDERSSON.

The following resolution was adopted:

The work should provisionally be carried out according to the present programme.

The Chairman is requested to draw up a proposal for the Programme of Investigations. This proposal should be circulated among the members of the Committee for consideration.

Transition Area Committee.
Chairman: Dr. A. C. JOHANSEN.

The following resolution was adopted:

The Chairman is requested to draw up a proposal for the Programme of Investigations. This proposal should be circulated among the members of the Committee for consideration.

North Eastern Area Committee.
Chairman: Professor JOHAN HJORT.

The following resolution was adopted:

That a committee be formed to deal with investigations in the North Eastern Area which would have as its western boundary the 1000 metre line and as its

transition de la Baltique à la Mer du Nord comprenant la Mer des Belts, le Cattegat et le Skagerak recommande que ces deux régions constituent deux aires géographiques séparées.

Les limites de ces aires devraient êtres fixées comme suit:

1) La Baltique proprement dite, comprenant le golfe de Bothnie, la baie de Finlande et la Baltique centrale jusqu'à Bornholm.
2) L'aire de transition, comprenant la Baltique méridionale depuis Bornholm, les Belts, le Sound, le Cattegat et le Skagerak.

2. Le Comité baltique juge très désirable que l'hydrographie et la biologie soient pleinement représentées dans les comités géographiques et que, dans ce but, chaque nation puisse envoyer deux représentants, délégué ou expert, à chacun des comités auxquels elle désire participer.

Comité de l'Aire Baltique et de l'Aire de Transition.

Le Comité mixte des Aires Baltique et de Transition a élu membre du Comité consultatif, le Dr. A. C. Johansen et le Dr. K. A. Andersson comme remplaçant éventuel.

Les pays représentés dans le Comité de l'Aire de Transition sont le Danemark, la Norvège, la Suède.

Les pays représentés dans le Comité de l'Aire Baltique sont: le Danemark, l'Esthonie, la Finlande, la Lettonie, la Pologne, la Suède.

Comité de l'Aire Baltique.

Président: Dr. K. A. Andersson.

La résolution suivante a été adoptée:

Provisoirement le travail devra être exécuté d'après le programme actuel.

Le Président est prié d'élaborer un projet de programme des investigations. Ce projet devra circuler, pour examen, parmi les Membres du Comité.

Comité de l'Aire de transition.

Président: Dr. A. C. Johansen.

La résolution suivante a été adoptée:

Le Président est prié d'élaborer un projet de programme des investigations. Ce projet devra circuler, pour examen, parmi les Membres du Comité.

Comité de l'Aire Nord-Est.

Président: le Professeur Johan Hjort.

La résolution suivante a été adoptée:

Un Comité devra être formé pour s'occuper des investigations dans l'Aire Nord-Est.

southern the 200 metre line as far as the Wyville-Thomson ridge and the Skagerak and that the following countries be represented in the committee by one official representative and one expert: Norway, England, Scotland, France, Sweden, Denmark, and that Prof. HJORT be appointed Chairman of the Committee.

North Sea Committees.

Combined Committee: Honorary chairman: Mr. DAVID T. JONES.
Chairmen: Northern North Sea: Dr. A. BOWMAN.
Southern North Sea: Mr. J. O. BORLEY.

In accordance with the resolution of the Council a meeting was convened to set up a special Committee to deal with investigations carried on by them in the North Sea. The Committee duly met Wednesday 2nd Sept. 1925 at 10.30 am. under the chairmanship of Mr. D. T. JONES, C.B.E., F.R.S.E.

There was a full attendance and the following resolutions were adopted.

1) That for the purposes of facilitating the work the following limits be fixed as the boundaries of the North Sea.
   a) North — the 200 metre line from the Wyville-Thomson ridge to the Skagerak.
   b) West — from the eastern edge of the Wyville-Thomson ridge to the Butt of Lewis.
   c) South — longitude 2° W. in the English Channel.
   d) East — 8° E. long., in the entrance to the Skagerak.
2) That the Committee meet as a whole to discuss general problems and that for purposes of administration the area be divided into two by a line drawn from Berwick to the 200 m. line in the Skagerak, in the direction of the Naze.
3) That committees be appointed for each of these two areas to be presided over by a chairman who would be a member of the Advisory Committee, the Chairman for the Southern division to be Mr. BORLEY and of the Northern Dr. BOWMAN.

It was decided further that the Committee as a whole be presided over by an Honorary President and that Mr. JONES be appointed to occupy that position.

4) That each country should have one representative on the committees who may be accompanied by one expert.
5) That the following countries be represented on the two area Committees:—

Southern North Sea Committee:—
England, Scotland, Denmark, Holland, France, Belgium, Sweden and Norway.

Northern North Sea Committee:—
England, Scotland, Norway, Denmark, Sweden, Holland and France.

6) That for the sake of continuity the programmes of the Herring, Cod and Haddock and Plaice Committees should be reaffirmed for the year 1925—1926.

Cette aire aura comme limite occidentale l'isobathe de 1.000 mètres et comme limite méridionale la ligne de 200 mètres jusqu'à la crête Wyville-Thomson et au Skagerak. Les pays suivants seraient représentés dans ce comité par un représentant officiel et par un expert: la Norvège, l'Angleterre, l'Ecosse, la France, la Suède, le Danemark. Le Professeur Hjort serait nommé Président du Comité.

Comités de la Mer du Nord.

Comité combiné: Président honoraire: Mr. David T. Jones.
Présidents: Mer du Nord septentrionale: Dr. A. Bowman.
Mer du Nord méridionale: Mr. J. O. Borley.

Conformément à la résolution du Conseil, une réunion a été convoquée pour installer un Comité spécial en vue d'organiser les investigations des deux comités dans la Mer du Nord. Ce Comité s'est réuni régulièrement le mercredi 2 septembre 1925 à 10,30 A.M. sous la présidence de Mr. D. T. Jones, C.B.E., F.R.S.E.

L'assistance était complète et les résolutions suivantes ont été adoptées:

1) Dans le but de faciliter le travail les limites suivantes seront assignées à l'aire de la Mer du Nord:
   a) Nord — la ligne de 200 mètres depuis la crête Wyville-Thomson jusqu'au Skagerak.
   b) Ouest — du bord oriental de la crête Wyville-Thomson jusqu'au "Butt of Lewis".
   c) Sud — 2° de longitude Ouest dans la Manche.
   d) Est — 8° de longitude Est, à l'entrée du Skagerak.
2) Le Comité se réunira au complet pour discuter les problèmes généraux et pour les matières administratives l'aire sera divisée en deux par une ligne tirée de Berwick à la ligne de 200 mètres dans le Skagerak vers la direction du Naze.
3) Des Comités seront formés pour chacune de ces deux aires, sous la présidence d'un président qui serait membre du Comité consultatif, les Présidents étant, pour la division méridionale M. Borley et pour la division septentrionale le Dr. Bowman.

   En outre il a été décidé que le Comité complet sera présidé par un Président honoraire et que M. Jones est désigné pour occuper cette position.
4) Chaque pays aura dans les Comités un seul représentant qui pourra être accompagné d'un expert.
5) Les pays suivants seront représentés dans les deux Comités:

   Comité de la Mer du Nord méridionale:

   l'Angleterre, l'Ecosse, le Danemark, la Hollande, la France, la Belgique, la Suède et la Norvège.

   Comité de la Mer du Nord septentrionale:

   l'Angleterre, l'Ecosse, la Norvège, le Danemark, la Suède, la Hollande et la France.
6) En vue d'assurer la continuité du travail les programmes des Comités du Hareng, du Cabillaud et Eglefin et de la Plie, seront repris pour l'année 1925—1926.

7) That at least one month before the annual meeting of the whole Committee at Copenhagen, there be placed in the hands of the members progress reports prepared by each of the two chairmen for the preceding year together with agenda of the business to be discussed, prepared by the Honorary President and any papers bearing thereon.
8) That in the nomination of members and experts on the two North Sea Committees provision should be made for the adequate representation of hydrography.

Statistical Committee.

Chairman: Professor D'Arcy W. Thompson.

The Committee received and approved the Bulletin (Vol. XII) for the years 1921—1922.

Captain Schøning reported that the usual Statistics had been received for the year 1923 from all countries except Finland, Iceland, Spain and Ireland: but for the year 1924 from the following countries only, viz. England, Germany, Holland, Poland, Scotland (in part). The Committee recommended that a Bulletin for 1923 be published as soon as the returns were received from Finland, Iceland, Spain and Ireland.

In view of the importance of the Iceland statistics, the Committee asked leave to call the attention of the Bureau to the desirability of Iceland being represented on the International Council.

Various changes were reported in the fishery statistics from Belgium, France and Poland; and the Committee expressed to the representatives of these countries their great satisfaction with the improvements made.

Finally, it was resolved that the Bulletin should in future include an Appendix, to contain for each country such additional statistical information as might seem important in the general interest, though not at present included in the International Tables.

Hydrographical Committee.

Chairman: Professor Martin Knudsen.

1) The resolutions of the Amsterdam meeting of the special Hydrographical Committee, March 1925, are confirmed.
2) In view of the fact that they are of high scientific value it is recommended that the current meter observations made at Horns Rev, Smith's Knoll and Varne Lightships during the years 1922 and 1923 be worked up and published. It is considered that the estimate of cost (£ 525) furnished by the Tidal Institute, Liverpool, is moderate and that the work of preparing a report might well be entrusted to them, publication of the report being undertaken by the Council.
3) The Committee recommends the publication of a 3-monthly bulletin, multi-

7) Au plus tard un mois avant la réunion du Comité complet à Copenhague, il sera remis aux mains des Membres des rapports sur les progrès réalisés, élaborés par les deux Présidents de l'année précédente ainsi qu'un "Agenda" des matières à discuter préparé par le Président honoraire avec tous les écrits quelconques ayant des rapports avec elles.
8) Dans la nomination des Membres et experts des deux Comités de la Mer du Nord on veillera à ce qu'une représentation adéquate de l'Hydrographie soit assurée.

Comité statistique.

Président: le Professeur D'Arcy W. Thompson.

Le Comité a reçu et approuvé le Bulletin (Vol. XII) pour les années 1921—1922.

Le Capitaine Schöning rapporte que les statistiques habituelles ont été reçues de tous les pays, pour l'année 1923, excepté la Finlande, l'Islande, l'Espagne et l'Irlande mais pour l'année 1924 elles ne sont venues que des pays suivants: l'Angleterre, l'Allemagne, la Hollande, la Pologne, l'Ecosse (partiellement). Le Comité recommande qu'un Bulletin pour 1923 soit publié aussitôt que les données seront reçues de Finlande, d'Islande, d'Espagne et d'Irlande.

En considération de l'importance de la statistique d'Islande le Comité se permet d'attirer l'attention du Bureau sur la désirabilité d'une représentation de l'Islande au sein du Conseil international.

Divers changements ont été signalés dans la statistique des pêcheries de Belgique, de France et de Pologne. Le Comité exprime aux représentants de ces pays sa satisfaction pour les améliorations réalisées.

Enfin il a été résolu que le Bulletin comprendrait, dans l'avenir, un appendice comprenant pour chaque pays toute information statistique additionnelle qui pourrait présenter un intérêt général, sans entrer pour le moment dans les tables internationales.

Comité hydrographique.

Président: le Professeur Martin Knudsen.

1) Les résolutions de la réunion du Comité spécial hydrographique à Amsterdam en mars 1925 sont confirmées.
2) En considération de leur haute valeur scientifique, il est recommandé que les observations faites au "current meter" aux bateaux-phare de Horns Riff, du Smith's Knoll et du Varne, pendant les années 1922 et 1923 soient élaborées et publiées. L'estimation du coût, fournie par le "Tidal Institute" de Liverpool, soit £525 est considérée comme modérée. Le travail de préparation du rapport pourrait être confié à cette Institution, tandis que sa publication serait entreprise par le Conseil.
3) Le Comité recommande la publication d'un Bulletin trimestriel multiplié au

plicated by cyclostyle or some other cheap process, containing reports on the work carried out or changes in programmes, and observational results in the form of provisional charts and diagrams. Important deviations from normal conditions should be circulated immediately after receipt of the information by the Bureau.

4) In view of the fact that the Hydrographical work of the International Council of necessity is largely concerned with fundamental questions which do not admit of geographical limitation in the same manner as purely biological problems, it is strongly recommended that the Hydrographical Committee should continue in existence. It is further recommended that the Chairman of the Hydrographical Committee should be a member of the Consultative Committee on the same footing as the Chairmen of the Area Committees.
5) The Committee recommends that the observation material received from Norway for the years 1922—1924 should be printed as a supplement to the last two hydrographical bulletins.

Plankton Committee.

Chairman: Professor C. H. Ostenfeld.

Professor Ostenfeld's proposal laid before the Council was as follows:—

During the first 15 years of the international research an extensive and minute investigation of the plankton-life in our Seas has been executed so that the species of zoo- and phytoplankton living there as well as their general distribution at different seasons of the year are fairly well known. We have also got acquainted with the characteristic plankton-forms which accompany the inflow of the Atlantic, the Arctic and the coastal waters with their manifold leading forms of southern or northerly origin: diatoms, peridinians, schizopods, copepods a. o.

The main purpose of the Plankton Bulletin (Bulletin trimestriel etc.) of former years which has now practically fallen into abeyance, is, therefore, to a certain degree fulfilled and should not be continued as a separate publication.

An immense number of problems of chiefly scientific interest remain to be solved and are subject to incessant investigation by specialists attached to the marine biological stations, of which more than a hundred are spread along the coasts of Europe from Naples to Alexandrowsk. The results of researches of such kind (morphologic, physiologic and experimental) ought to be published in the scientific journals of the different countries. On the other hand the planktonic work of the International Council ought to be concentrated upon the study of such plankton forms which constitute the food of fishes, fish larvæ and fry and ought mostly be carried out in those parts of the Sea

cyclostyle ou par un autre procédé peu dispendieux, et contenant des rapports sur le travail exécuté, sur les changements de programme ou sur les résultats de certaines observations sous la forme de cartes et de diagrammes. Les déviations éventuelles des conditions normales seraient communiquées par le Bureau immédiatement après leur réception.

4) En considération du fait que le travail hydrographique du Conseil international s'encadre nécessairement dans des problèmes fondamentaux qui ne peuvent être soumis, comme les problèmes purement biologiques, à des limites géographiques, il est fortement recommandé que le Comité hydrographique soit maintenu en existence. En outre il est recommandé que le Président du Comité hydrographique soit membre du Comité consultatif tout comme les Présidents des Comités des aires.

5) Le Comité recommande que le matériel d'observations reçu de Norvège pour les années 1922—1924 soit imprimé en supplément des deux derniers bulletins hydrographiques.

Comité du Plancton.

Président: le Professeur C. H. Ostenfeld.

La proposition suivante du Professeur Ostenfeld a été présentée au Conseil:

Pendant les 15 premières années des recherches internationales une investigation très étendue et très minutieuse de la vie planctonique dans nos mers a été poursuivie, de sorte que les espèces du zooplancton et du phytoplancton qui y vivent ainsi que la distribution générale de ces espèces aux diverses saisons de l'année, sont désormais assez bien connues. Nous avons aussi fait connaissance avec les formes planctoniques caractéristiques qui accompagnent l'influx des eaux atlantiques, arctiques ou côtières avec leurs multiples formes spéciales d'origine méridionale ou septentrionale: diatomées, péridiniens, schizopodes, copépodes et autres.

Le but essentiel du Bulletin du Plankton (Bulletin trimestriel etc.) des années précédentes, qui est à présent pratiquement tombé en désuétude, a donc été atteint dans une certaine mesure et cet écrit ne devrait pas être continué comme publication à part.

Un nombre immense de problèmes d'un intérêt surtout scientifique, restent à résoudre. Ils sont soumis à d'incessantes investigations par les spécialistes attachés aux stations biologiques marines dont on compte plus d'une centaine répandues tout le long des côtes d'Europe depuis Naples jusqu'à Alexandrowsk. Les résultats de leurs recherches (morphologiques, physiologiques et expérimentales) devraient être publiés dans les revues des différents pays, tandis que le travail planctonique du Conseil international devrait se concentrer plutôt sur l'étude des formes planctoniques qui constituent la nourriture de certains poissons ou des larves et du fretin, et devrait particulièrement être exécuté sur celles des

where the great seasonal fisheries of the herring, the mackerel, the sardines, the tunnies, etc. take place.

In such regions a combined investigation by fishery experts, hydrographers and plankton-biologists should be executed yearly by the adjoining countries in order to explore the conditions, favourable or infavourable, which rule the fish-life of our Seas, the propagation and the migrations of the foodfishes.

Immediately after the close of such a spawning or fishery season, the results: statistical, hydrographical and biological, should be worked out and tabulated according to a common schedule and forwarded to the Central Bureau for publication in the Bulletin Hydrographique and Statistique. The plankton observations should form an appendix or supplement to the hydrographic Bulletin.

The difficulties to get these investigations worked out are to be got over in one of the two following ways:

I. The plankton collections and observations are to be worked out by specialists of each country which has carried out the collecting, and the results are to be sent in to the Bureau together with the chemical and physical data of $S\,{}^0/_{00}$, t°, O_2, CO_2, P_H etc. tabulated according to the common schedule by the observer. The Bureau hands them over to a plankton specialist who is able to combine the results obtained from the different countries and prepare a general treatise on the question. It would be advisable to prepare the results separately for each foodfish (herring, mackerel, etc.) and not publish them until sufficient data are at hand for a valuable general treatise. How long time that will take, depends upon how much work each country carries out. Probably it would be the better course to have one planktonspecialist for the food of herring, another for that of mackerel etc. Then it seems unnecessary to maintain a permanent Editor for plankton questions. Nevertheless a grant for such work should always be found in the budget to be employed by the Bureau for extra work by specialists after agreement.

II. Another much better plan would be that the Bureau by means of a Plankton Assistant who can give his whole time to the work, takes over the examination of the plankton samples collected by each country, and after having worked out the material sent in, prepares general treatises — when such is possible — to be published as separate papers, f. i. as appendices to the Proc.-Verb.

The participating countries must in that case pay a certain amount to get the samples examined and get the results of the examination sent to them in tabular form, but the Plankton Assistant (the Bureau) keeps a copy and is allowed to use the data in order to treat the matter in a more general way.

parties de la mer où s'exercent les grandes pêcheries saisonnières du hareng du maquereau, des sardines, des thons, etc.

Dans ces régions une investigation combinée par les experts en pêcherie, les hydrographes et les biologistes planctologues devrait être conduite chaque année par les pays voisins en vue de reconnaître les conditions favorables ou défavorables qui règlent, dans nos mers, la vie des poissons en général et la reproduction ainsi que les migrations des poissons alimentaires.

Immédiatement après la clôture d'une saison de frayage ou d'une saison de pêche il faudrait que les résultats statistiques, hydrographiques et biologiques soient analysés et tabulés d'après un plan commun et envoyés au Bureau central pour être publiés dans le Bulletin hydrographique et statistique. Les observations de plancton devraient former un appendice ou supplément au Bulletin hydrographique.

Les difficultés qui se rattachent à l'exécution des travaux complémentaires que comportent ces recherches peuvent être vaincues de l'une des deux manières suivantes:

I. Les collections de Plankton et les observations devront être travaillées par des spécialistes de chacun des pays qui ont rapporté les collections, et, les résultats devront être envoyés au Bureau en même temps que les données chimiques et physiques de $S\,{}^{0}/_{00}$, t°, O_2, CO_2, P_H etc. tabulées d'après une formule convenue par les observateurs. Le Bureau les passerait à un spécialiste en plancton capable de combiner les résultats obtenus par différents pays et de préparer ainsi un travail général sur la question. Il serait à conseiller de préparer séparément les résultats concernant chaque poisson alimentaire (hareng, maquereau, etc.) mais de ne les publier qu'après avoir obtenu des données suffisantes pour former un traité sérieux. Le temps que ce travail prendrait dépendrait de la quantité de travail que produirait chaque pays. Il est vraisemblable que la meilleurs méthode consisterait à choisir un spécialiste en plancton pour la nourriture du hareng, un autre pour le maquereau, etc. De cette façon il semble qu'il serait inutile à l'avenir de maintenir un éditeur permanent. Néanmoins un poste pour ce travail devrait toujours figurer au Budget et être affecté par le Bureau au travail extraordinaire, par accord préalable, des spécialistes.

II. Un autre plan, beaucoup meilleur, serait que le Bureau, par l'intermédiaire d'un assistant planctoniste pouvant consacrer tout son temps au travail, prenne sur lui l'examen des échantillons de plancton recueillis par chaque pays et qu'après avoir élaboré tout le matériel envoyé il prépare des traités généraux qui pourraient être publiés à part, par exemple comme appendices des Procès-Verbaux.

Les pays participants devraient dans ce cas payer un certain prix pour l'examen des échantillons et pour leur tabulation mais l'assistant planctoniste (le Bureau) en conserverait une copie et serait autorisé à faire usage de toutes les données pour traiter les sujets d'une manière plus générale.

Owing to the new scheme for work in geographical areas this proposal was, in agreement with the Plankton Section and the new Consultative Committee, altered into the following new recommendation, which was agreed upon by the Council:

After the adoption at the Council meeting of the proposal by Mr. MAURICE and Professor HJORT about the geographical areas I feel that my proposal on plankton does not fit into the new organisation. Therefore, I beg to propose the following modifications of my proposal:

1) The Plankton Section is to be continued as a Plankton Committee, the members of which are to be nominated by the countries. It has an honorary chairman who is to be called upon by the Consultative Committee as a supernumerary member concerning plankton matters.
2) The discussion on the nomination of a Plankton Assistant at the Bureau is to be postponed until the next annual meeting of the Council in order that we may be better able to decide whether such an assistant is desirable under the new organisation or not.

Limnological Committee.

Chairman: Dr. H. C. REDEKE.

1) The Limnological Committee proposes, with a view to arresting the progressive diminution of the Salmon in the Western Europe, that the possibility of creating spawning reservations by international agreement between England, France and Spain should be examined.
2) In view of the economic importance of the problems arising from the pollution of fresh waters by industrial waste products, sewage, etc. the Limnological Committee proposes that, as a preliminary to the more intensive study of these problems, the Chairman of the Committee should compile a comprehensive summary of:

   The nature of the principal pollutions with which different countries have to deal and

   The laws and other measures in force for preventing such damage.

Consultative Committee.

Chairman: Professor JOHAN HJORT.

1) The new recommendation by Professor OSTENFELD, referred to above (p. 54), was laid before the Committee and it was unanimously resolved to recommend the new proposal by Professor OSTENFELD to the Bureau and the Council.
2) That the appointment of a Hydrographical Assistant for one year only be proceeded with, his primary duty being to attend to the collection and publication of the hydrographical data sent in to the Bureau, the question of the ultimate appointment of a Hydrographer with larger functions and responsibilities to be deferred till next Council meeting.

En conformité avec le nouveau plan de travail par superficies géographiques, ce projet fut transformé, d'accord avec la Section du Plankton et du nouveau Comité consultatif, en une nouvelle recommandation reproduite ci-après, qui fut votée par le Conseil:

Après l'adoption à la réunion du Conseil, de la proposition de M. Maurice et du Professeur Hjort au sujet des aires géographiques, je sens que ma proposition concernant le plancton ne s'adapte pas à la nouvelle organisation. Conséquemment je me permets de proposer les modifications suivantes de ma proposition:

1) La section du plancton doit être maintenue comme Comité du plancton. Les Membres de ce Comité seront nommés par les pays. Il aura un Président honoraire que le Comité consultatif pourrait s'adjoindre comme Membre surnuméraire pour les questions de plancton.
2) La discussion sur la nomination d'un Assistant planctoniste au Bureau doit être remise à la prochaine réunion du Conseil afin de nous trouver plus à même de décider si cet assistant est désirable ou non sous la nouvelle organisation.

Comité Limnologique.

Président: le Dr. H. C. Redeke.

1) Le Comité limnologique propose, en vue d'arrêter la diminution progressive du saumon dans l'Europe occidentale, que l'on examine la possibilité d'établir des réserves de frayage, par accord international, entre l'Angleterre, la France et l'Espagne.
2) En considération de l'importance économique des problèmes soulevés par la pollution des eaux douces par les eaux résiduelles, les eaux d'égout, etc. le Comité limnologique propose, comme préliminaire d'une étude plus intensive de ces problèmes, que le Président du Comité réunisse un sommaire compréhensif sur:

la nature des principales pollutions dont on a à s'occuper dans les différents pays;

les lois et autres mesures en vigueur pour prévenir le dommage.

Comité Consultatif.

Président: le Professeur Johan Hjort.

1) La nouvelle recommendation du Professeur Ostenfeld, dont il est question ci-dessus (p. 55), est présentée au Comité et il est unanimement décidé de recommander sa nouvelle proposition au Bureau et au Conseil.
2) La nomination d'un Assistant hydrographe pour un an seulement est mise à effet; son principal devoir sera de veiller à la collection et à la publication des données hydrographiques envoyées au Bureau; la question de la nomination ultérieure d'un hydrographe avec des fonctions et des responsabilités plus étendues est différée jusqu'à la prochaine réunion du Conseil.

3) The duties of a Chairman of an Area Committee shall be: —
   a) To prepare and present to the Bureau each year an Administrative Report. Such Report shall state the area covered by the investigations of the Committee during the year, with an outline of the observations made.
   b) To draw up, when it may seem to him desirable, memoranda expressing his views as to the main problems affecting the area and methods of treating them, for the consideration of the Committee.
   c) To prepare Agenda for each meeting of the Committee and to circulate all papers relating to the meeting of the Committee, as a rule at least one month before the meeting.
   d) To draw up from time to time with the consent of the Committee a general review of the work done and results achieved, together with an examination of the position reached by investigation in the area.

4) a) The contiguity of Committees and the community of interest in certain problems may render it necessary that the Chairman of certain Committees should meet to discuss questions affecting their Areas. These meetings shall take place after authorization by the Bureau of the International Council which will fix the place of meeting.

   A report of the meeting shall be sent to the Bureau and to the Chairman of the Consultative Committee. Expenses of the meeting may be borne by the Council.

   b) The Chairman of an Area Committee shall have the right to convene the representation of the different nations belonging to the Committee with the authorization of the Bureau of the International Council. Travelling expenses of the members of the Committee may be borne by the Council in respect of one representative of each country.

   c) The Chairman of the Consultative Committee shall invite the attendance of the supernumerary Members as occasion requires.

5) a) The Consultative Committee shall meet before the opening meeting of the General Council, and the Chairman of the Committee shall communicate to the Bureau the Resolutions of the Consultative Committee.

   b) The Consultative Committee considers it of great importance that adequate time shall be given to the Area Committees for the full consideration of their Agenda and other scientific discussions.

   c) Proposals for the consideration of the Consultative Committee shall be sent to the Chairman as a rule one month before the meeting of the International Council, to enable him to prepare Agenda for the meeting of this Committee.

   d) Scientific Reports of work done by the Area Committees should in the opinion of the Consultative Committee, if not published nationally, appear in the Rapports et Procès-Verbaux.

3) Les devoirs du Président d'un Comité d'aire seront:
   a) de préparer et de présenter au Bureau chaque année un rapport administratif. Ce rapport établira l'aire qui a été couverte par les investigations du Comité pendant l'année, avec un résumé d'observations faites.
   b) de rédiger, quand cela lui paraîtra désirable, des memorandums exprimant, pour leur prise en considération par le Comité, ses vues au sujet des principaux problèmes intéressant l'aire et sur les méthodes de traitement de ces problèmes.
   c) de préparer un "Agenda" pour chacune des réunions du Comité régulièrement au moins un mois avant la réunion.
   d) de résumer de temps en temps, avec l'assentiment du Comité, une revue générale du travail exécuté et des résultats obtenus ainsi qu'un examen de la situation atteinte par l'investigation dans l'aire.

4) a) La contiguité et la communauté d'intérêts, dans certains problèmes peut rendre nécessaire la réunion des Présidents de certains Comités pour discuter les questions intéressant leurs aires. Ces réunions se tiendront, après autorisation par le Bureau du Conseil international qui fixera le lieu de la réunion.

   Un rapport de ces réunions sera envoyé au Bureau et au Président du Comité consultatif. Les dépenses des réunions seront supportées par le Conseil.

   b) Le Président d'un Comité d'aire aura le droit de convoquer la représentation des différentes nations appartenant au Comité avec l'autorisation du Bureau du Conseil international. Les frais de voyage des membres du Comité seront supportés par le Conseil dans la mesure d'un représentant par pays.

   c) Le président du Comité consultatif demandera l'assistance des Membres surnuméraires quand l'occasion le réclame.

5) a) Le Comité consultatif se réunira avant l'ouverture de la réunion du Conseil général, et le Président du Comité communiquera au Bureau les résolutions du Comité.

   b) Le Comité consultatif considère comme très important que les Comités d'aires disposent du temps nécessaire pour la pleine considération de leurs "Agenda" et pour les autres discussions scientifiques.

   c) Les propositions soumises à la considération du Comité consultatif seront envoyées au Président, en règle générale un mois avant la réunion du Conseil international, afin de le mettre à même de préparer l'Agenda pour la réunion de ce Comité.

   d) Des rapports scientifiques sur le travail accompli par les Comités d'aires, paraîtront d'après l'avis du Comité consultatif dans les Rapports et les Procès-verbaux, s'ils ne sont pas publiés par les Pays eux-mêmes.

Organisation as revised at the Meeting held in Copenhagen, in September, 1925.

The Bureau.

The President, three Vice-Presidents and the General Secretary, as before.

The Finance Committee.

Appointed annually, as before.

The Editorial Committee.

Elected annually as before, but increased from five to seven members, of whom the Editor of the Journal is a member "ex officio".

Committees of Scientific Subjects treated on a general basis.

The Statistical, Hydrographical, Limnological and Plankton Committees. Chairmen of these Committees are nominated. Attendance on the Committees is open to all Council members and experts interested.

Area Committees.

These Committees are appointed by the Council on the nomination of the delegates of the countries which have interests in the areas respectively. The Committees elect their own Chairmen, who are charged with definite functions referred to hereunder.

The waters in which the Council carries on its investigations have been divided for this purpose into the following areas, for each of which a Committee had been appointed:—

1. The North Sea, with the following boundaries:— *North* the 200 metre line from the Wyville-Thomson Ridge to the Skagerak, *west* from the eastern edge of the Wyville-Thomson Ridge to the Butt of Lewis, *south* longitude 2° West in the English Channel, *east* longitude 8° East in the entrance to the Skagerak.

2. The Baltic Sea with the Skagerak, Kattegat and Belts.

3. The Atlantic Slope, including all waters investigated by the Council from Rockall southward, and the English Channel west of longitude 2° West.

4. The North Western Area, the region of which Iceland and the Faroes form the centre.

5. The North Eastern Area, having as its western boundary the 1000 metre line, and as its southern the 200 metre line as far as the Wyville-Thomson Ridge and the Skagerak.

Area 1. is subdivided into sub-areas — the Northern North Sea and the Southern North Sea — by a line drawn from Berwick to the 200 metre line in the Skagerak, in the direction of the Naze. Separate Committees are appointed for these sub-areas. The main Committee and the two sub-committees electing their own chairmen.

Area 2. is sub-divided into two sub-areas:— the Baltic Sea, east of Bornholm — called the Baltic Area — and so much of the Baltic as lies west of Bornholm, with the Kattegat, the Skagerak, the Belts and the Sound — called the Transition Area. Separate Committees are appointed for these sub-areas, each Committee electing its own Chairman.

Functions of the Area Committees.

1) To consider what are the practical problems arising, or likely to arise, in their areas, and their relative urgency, and to endeavour to reach a practical solution of them; and, for this purpose,

2) To study the stock of selected species of fishes in these areas both quantitatively and in relation to their environment; and, for this purpose,

3) To formulate programmes securing in each area active co-operation of all countries interested in the area,

a) in biological studies of the stock itself;

b) in studies of the hydrographical conditions which affect the life and movements of the fishes, and

c) in the study of the plankton and bottom fauna upon which these fishes feed.

4) To put these programmes into effect.

Functions of the Chairmen of Area Committees.

A) To preside over the meetings of the Committees and regulate their procedure;

B) To keep in touch with the workers who are to carry out the area programmes, to do all in their power to ensure that the work undertaken is actually carried out in accordance with the programmes, and to obtain reports thereon;

C) To prepare and present to the Bureau annually an administrative report containing, inter alia, a statement of the area covered by the investigations and an outline of the observations made;

D) To draw up, when it may seem to him desirable, memoranda expressing his views as to the main problems affecting the area and methods of treating them, for the consideration of the Committee.

E) To prepare Agenda for each meeting of the Committee and to circulate all papers relating to the meeting of the Committee, as a rule at least one month before the meeting.

F) To draw up from time to time with the consent of the Committee a general review of the work done and results achieved, together with an examination of the position reached by investigation in the area.

G) To furnish the Bureau with annual estimates of the financial needs of their committees, with explanation of them.

H) Except where otherwise indicated, to serve on the Consultative Committee.

Incidental Meetings.

1. The Chairmen of two or more Area Committees may, with the authority of the Bureau, meet to discuss questions jointly affecting their areas. The place of any such meeting shall be designated by the Bureau. A report of the meeting shall be sent to the Bureau and the Chairman of the Consultative Committee. Expenses of the Meeting may be borne by the Council.

2. The Chairman of an Area Committee may, with the authority of the Bureau, call a meeting of his committee, and the expenses of the meeting may be borne by the Council providing that travelling expenses shall be paid in respect of one representative only of each country represented on the committee.

Consultative Committee.

The Consultative Committee consists of:—

a) The Chairmen of the Area Committees, with the exception that the area of the Baltic with the Kattegat, Skagerak, etc., will be represented on the Consultative Committee by one only of the two chairmen of sub-areas to be nominated for the purpose by the two sub-area committees sitting together;

b) The Editor of the Journal;

c) The Chairman of the Hydrographical Committee;

d) The Chairmen of the Statistical, Plankton and Limnological Committees, to be summoned as supernumerary members as occasion may require.

The Bureau is at liberty to summon the Consultative Committee for consultation as necessity arises, and the Committee has the right, in regard to all matters affecting the scientific work, to be consulted by the Bureau, and, of its own motion, to advise the Bureau and lay before it the views of the scientific workers.

The Consultative Committee will meet before the opening meeting of the Council, and the Chairman of the Committee will communicate to the Bureau the Resolutions of the Committee.

Publications.

The Publications of the Council will fall into the following categories:—

1) Procès-Verbaux with the Administrative Report (including the Administrative Reports of the Areas).
2) Rapports, i. e. Scientific Reports published by Special Resolution of the Council. All of these would be published in the present series of Rapports & Procès-Verbaux. Reports prepared by the chairmen of Area Committees will be included in this series of Rapports.
3) Popular Reports, being simple accounts of scientific work for the information of fishermen and others.
4) The Journal, containing:—
   a) Abstracts and Reviews of current publications of scientific investigations carried on by or in connection with the Council or in the area covered by the Council's work;
   b) Scientific papers formerly published in Publications de Circonstance; and
   c) Such other matter as the Editor may deem suitable.
5) The Statistical and Hydrographical Bulletins.

Editor of the Journal.

The Council will appoint an Editor of the Journal, who will, *ex officio*, be a member of the Editorial Committee and of the Consultative Committee.

REPORT

of

ADMINISTRATION 1924—1925.

I. General.

Composition of the International Council for the Exploration of the Sea.

During the year 1924—25 the Irish Free State has joined the Council paying a yearly contribution of Kr. 10,000,—.

The Norwegian Delegate, Mr. E. Lea has been replaced by the Fishery Director, Mr. Asserson.

Composition of the Bureau.

The members of the Bureau were the same as the preceding year: Mr. H. G. Maurice, President, Professor Johan Hjort, Professor Otto Pettersson, M. Théodore Tissier and the General Secretary C. F. Drechsel.

Committees.

Besides the ordinary Committees (viz. the Finance, the Statistical, the Editorial Committee, the Hydrographical Committee and the Plankton Committee) the Herring Committee, the Cod- and Haddock Committee, the Plaice Committee, the Atlantic Slope Committee, the North Atlantic Committee, the Baltic Committee, the Limnological Committee and the special Hydrographical Sub-Committee have worked during the year.

Audit of Accounts.

The Accounts of the Council for 1923—24 have been revised and found correct by the Finance Committee, and are to be submitted to the Council for its approval at its meeting in 1925.

A Statement is given below of the Accounts for 1924—25, which shall be revised by the Finance Committee.

Statement of Accounts for the financial year 1924—25.

Receipts:

			Estimates	Real Receipts
I.	1.	Balance brought forward from 1923/24..	140 000.00	134 480.45
II.	2—13.	Annual contributions of the Governments for 1923/24.....	132 000.00	134 956.82
III.		Interest.....	0.00	7 214.81
IV.	11.	Sales of publications.....	0.00	414.97
		Total Kr....	272 000.00	277 067.05[1])

Expenditures:

			Estimates	Real Expenditures
I.	1—6.	Incidental expenses.....	27 600.00	27 711.11
II.	7—11.	Assistance.....	25 750.00	19 796.00
III.	12.	Expenses of the office in Copenhagen	14 000.00	13 096.26
IV.	13.	Travelling expenses	9 000.00	7 499.23
V.	14.	Conveners.....	9 000.00	9 000.00
VI.	15.	Special Resolutions of the Council.....	11 000.00	8 162.20
VII.	16.	Printing and distribution	25 000.00	18 923.06
VIII.	17.	Extraordinary expenses	800.00	566.25
		Paid interest from 25/6—22/10 1924 of 5% Danish Treasure Bills nom. Kr. 51.600 ..	0.00	910.17
		Total Kr....	122 150.00	105 664.28

Receipts — for the financial year 1924—25..... Kr. 277 067.05[1])
Expenditures — — — — ..... - 105 664.28
Cash balance to carry forward to 1925—26 ..... **Kr. 171 402.77**

Of this Balance were deposited in Kjøbenhavns Handelsbank, Hellerup Afd. and cash..... Kr. 122 333.75
Further was on 24th October 1924 bought nominel Kr. 51 600.00 5% Danish Treasure Bills 1918 Purchase value » 49 069.02
Kr. 171 402.77

(the market value of the Bills on July 21st is Kr. 49 923.00).

[1]) + Russia's contribution for 1914/15, **Rbl. 14 430.54,** deposited in a Leningrad bank.

Meetings.

Meetings of the Bureau have been held in Copenhagen during the Council Meeting in September 1924 and in Amsterdam 29th and 30th March 1925. Present were: Mr. MAURICE, President, Président TISSIER, Professor PETTERSSON, Professor HJORT and Captain DRECHSEL.

A Conference on the North Sea Plaice Fisheries was held at Amsterdam, 24th to 28th March, 1925, of Official Delegates from the countries bordering on the North Sea. The Resolutions of this Conference has been distributed by the Danish Foreign Office to the Governments of these countries.

Meetings of the special Hydrographical Committee were held at Amsterdam, 26th to 28th March, 1925.

The Reports of these two Committees have been printed as Rapports et Procès-Verbaux and distributed from the Bureau, and the Governments concerned have been asked whether they are now prepared to send delegates to an official Conference about the Plaice question, such conference to be held in London.

Five-yearly periods of adhesion to the Council.

Letter has been sent to the Danish Foreign Office suggesting to submit to all Governments now represented on the Council the desirability of formally announcing their continued adhesion to it after 21st July 1926 either indefinitely or at least for a further period of 5 years at the present rate of contribution and subject to the existing statutes governing the constitution and proceedings of the Council.

II. Work of the Bureau at Copenhagen.

Besides administrative work, correspondance, etc. the following work has been carried out:—

A. Publications.

Report regarding the publications issued and cost of same during the financial year 1924—25.

VII. — 16. Printing.

Rapp. & Procès-Verbaux Vol. XXXIV	— 600 copies	Kr.	1 327.09
— — — XXXV	— 600 copies	-	1 951.75
— — — XXXVI	— 600 copies	-	821.35
— — — XXXVII	— 650 copies	-	2 175.17
Hydrographical Bulletin, for 1924	500 copies	-	2 560.07
Statistical Bulletin, Vol. XII	— 800 copies	-	5 166.45
	carried forward....	Kr.	14 001.88

Occasional Papers: Brought forward....	Kr.	14 001.88
Publ. de Circonstance Nr. 85, by A. R. Molander, 600 cop.	-	313.85
— - — - 86, by H. J. Buchanan-Wollastone 600 cop.....	-	388.00
— - — - 87, by Martin Knudsen, 600 cop..	-	190.00
— - — - 88, by A. Fr. Bruun, 700 cop.....	-	283.00
Plaice Resolutions	-	261.00
Report of Hydrographical Committee's meeting	-	156.75
— - — — — (French).....	-	142.20
Distribution of Publications.....	-	2 124,83
Unforeseen expenses: Proof-readings, drawings, translations &&..	-	1 061.55
	Kr.	18 923.06
Balance...	-	6 076.94
	Kr.	25 000.00

B. Other Work of the Bureau.

Report of work carried out by the Departments of the Bureau during 1924—25.

a. Hydrographical Department.

The printing of the "Bulletin Hydrographique" 1920—23 was completed, and further publications in this department were printed, as follows:—

Rapport Atlantique 1923.

Publications de Circonstance no. 86 and no. 87.

The material for the Bulletin Hydrographique 1924 was collected and prepared for press.

The department has acted as an adviser on scientific and technical problems raised by oceanographers in various countries.

b. Statistical Department.

The Bulletin Statistique for the years 1921 and 1922 has been compiled. The second proof-print of the General Statistics was in the month of July forwarded to the various countries for perusal and remarks while the Introduction was worked out by the Editor and the 20th of July the whole of the M.S. was delivered to the printer and will be finished the last week of August.

The work with our next edition of the Bulletin for the years 1923 and 1924 has been carried on and the library of the Bureau has been kept up to date.

c. Plankton Department.

The Department has, as usual, acted as an adviser in Plankton questions, and has further assisted the printing of the Rapport Atlantique 1923 as far as plankton is concerned.

III. Work of the Participating Countries in accordance with the Programme of the Council.

A. General observations.

Belgium. Le laboratoire maritime ayant perdu la jouissance d'un local privé a été un instant menacé d'une suppression totale. Transféré, par permission du Ministère des Travaux publics, dans les dépendances d'une écluse maritime, complétées par un baraquement, il a, toutefois, pu se maintenir en existence. Malgré le manque total de personnel salarié et l'insuffisance du budget, il a pu grâce à des coopérations volontaires et à l'intervention de personnes privées, reprendre la condition dans laquelle il fonctionnait avant la guerre.

Partiellement ruiné par la tempête du 1er mai il a pu se reconstituer depuis et est en voie de recevoir l'organisation et l'outillage nécessaire au travail océanographique et biologique. Les observations et recherches entamées ont pu être continuées, surtout en biologie marine et en technique. La tabulation et l'analyse des résultats accumulés ont été poursuivies. Le travail concernant les pêcheries nécessitant des moyens plus puissants n'a pas reçu jusqu'ici l'extension désirée. Le steamer océanographique "Oithona" a fait de nombreuses pêches au chalut à planches. Le canot crevettier 0.5 et le cotre 0.13 ont fait aussi un grand nombre de pêches dans la région littorale. Mensuration complète des captures totales.

Denmark. The Danish research ship the "Dana" has been commissioned for research work from 1st July to medio September 1924 and from 1st April to 30th June 1925, $3^1/_2$ months at Iceland and the Faroe Islands and $1^1/_2$ in the Danish home waters. Moreover these waters have been investigated by smaller steamers and motor boats belonging to the Fishery Administration and the Danish Commission.

Finland. Cruises with the steamer "Nautilus" and motorboat "Aurelia" have been made in Finnish waters. The continual observations on temperature, salinity, oxygen, sea-level, currents and ice-conditions at the coastal stations and on light-ships have been carried on. Special investigations in lakes and rivers have been carried out. Special investigations on the carbonic acid question have been made on cruises and in the laboratory.

France. En accord avec le programme de Septembre 1924, et à la suite d'une réunion particulière du Comité du Plateau Continental Atlantique, tenu à Paris en Janvier 1925 sous la présidence de M. le Professeur Joubin, l'Espagne, la France et l'Etat libre d'Irlande ont combiné un programme qui permettra un ensemble de recherches dans le Golfe de Gascogne chaque trimestre.

Ce programme donne une place spéciale à la demande du Professeur O. Pettersson en ce qui concerne la délimitation de la ligne isobathe 35,5 aux différents moments de l'année.

La croisière de Février, par suite du mauvais temps, n'a pu avoir lieu: le navire Espagnol qui était seul sorti, a dû rebrousser chemin devant la tempête.

Mais la croisière de Mai s'est effectuée dans des conditions excellentes et les navires français, irlandais et espagnols ont pu travailler d'une façon synchronique.

Le prochain Rapport Atlantique publiera les résultats de ces observations.

La prochaine croisière aura lieu au mois d'Août et une dernière croisière, dans les mêmes parages, en Novembre.

Comme les renseignements que nous possédions pendant la période hivernale nous paraissaient particulièrement insuffisants, l'Office des Pêches Maritimes a organisé une croisière au mois de Janvier sur un chalutier commercial dans la région des Açores, Madère, Canaries et Maroc. Une tempête terrible a contrarié les opérations, mais cependant quelques utiles renseignements ont pu être recueillis par MM. Belloc, le Gall et Rallier du Baty qui avaient pris place à bord.

C'est à la Marine Nationale que nous devons la possibilité d'effectuer régulièrement chaque trimestre les croisières dont nous avons parlé plus haut.

D'autre part, en 1924 (et ces données paraîtront dans le Rapport Atlantique 1924) le "Pourquoi-pas?" a travaillé en Manche Occidentale et le navire "Tanche" à l'aller et au retour d'une croisière en Méditerranée, a recueilli de nombreuses données hydrologiques au large des côtes de Portugal, du Maroc, et dans le Golfe de Gascogne.

Great Britain. England. The Research vessel "George Bligh" was kept in commission throughout the period under review and carried out 24 cruises.

Scotland. The scientific investigations have made steady progress along the lines indicated in the reports of the last two years. The equipment of the buildings at Wood Street, Torry, taken over during the previous year for laboratory accommodation, has been gradually improved to meet the growing requirements of the work.

The Research Vessel "Explorer" was in continuous commission during the period under review, with the exception of the latter part of December 1924 and January 1925. The Motor Boat "Enid" was in commission for eight and a half months. The following cruises were completed:—

1) September 1924. a) Distribution of the 1923 and 1924 haddock broods in the middle North Sea. b) The distribution of the newly hatched autumn brood of clupeoids.
2) October 1924. The distribution of the autumn broods of clupeoids in the northern and north-western areas.
3) November—December 1924. Herring investigations in the Firth of Forth area.
4) February—March 1925. Trawling experiments. Age-assessment and spawning conditions etc. of haddock. Net experiments.
5) March—April 1925. An intensive survey of the Firth of Forth and adjacent areas in the North Sea to determine the distribution of the autumn and spring spawning broods of clupeoids. Trawling experiments.
6) April 1925. Hydrographic cruise. Co-operation with "George Bligh" to determine hydrographic conditions in middle North Sea. Motor Boat "Enid" — Herring investigations in the Firth of Forth.
7) May 1925. Plankton observations on the East Coast of Scotland and trawling observations.

8) June—July 1925. Icelandic cruise in accordance with the programme of the North Atlantic Committee.
9) July—August 1925. a) The hydrographical and plankton conditions on the Scottish herring fishing grounds. b) Drift net experiments.

Holland. During July and August 1924 investigations in the Waddenzee were continued though much hampered by boisterous weather during August. The vessel used was a small sailing craft, the E. H. 124, owned at Enkhuizen and hired for the purpose.

A report was prepared in July 1925 on the effect of oil pollution at sea, based on aquarium experiments at the Zoological Station at Helder and on plankton samples collected by pilot vessels near Schouwenbank and Hook of Holland, whenever floating oil was met with.

Some extensive work on the analysis of the smallest fish (mostly landed by coast vessels and luggers) unfit for human foot but largely used for feeding ducks has been made.

It must again be stated that the lack of a suitable research vessel renders all the work at sea rather disconnected and of a fragmentary nature.

Latvia. The collection of detailed statistical material with regard to the fishery has been carried on, as well as the investigations concerning flounders previously commenced. Furthermore, the investigations as to composition of the year-classes of *Coregonus albula* on the Usma and Aluksne lakes were resumed. Salmon and *Coregonus lavaretus* investigations in the Salis and Düna rivers have been continued.

Hydrographical observations and plankton collections have been continued.

Norway. In 1925 in May and June a cruise was made with the "Johan Hjort" to the waters round Finmark, during the main cod fishing season, a number of hydrographical sections having been made perpendicularly to the coast as far east as from the Fishermans Peninsula (Rybachi poluostroff). To the South of Finmark a few such sections were also made, the southernmost in the West fjord and west of the Lofot isles. The investigation of the fiords in northern Norway was continued. The bottom fauna of the deep portions of the fiords was investigated by means of the Petersen grab.

In June last, the third combined fishing experiment and oceanographical expedition, organized by the Fishery Authority, to the Spitsbergen and Barents Seas, was started from Norway. After 6 weeks successful work in Spitsbergen waters and in the deep sea to the west of the archipelago, the ship of the expedition m/c "Tovik" (length o. a. 62 f.) foundered at the entrance to Advent Bay, Spitsbergen. Everything except the vessel was salved. The season being too advanced, further work for this year has been postponed to next spring.

In June, the research vessel of the Bergen Museum Oceanographical Institute, m/c "Armauer Hansen", made investigations from the mouth of the Sognefiord to a point north of Faeroe islands, continuing the work done in 1923 and 1924

on the currents in the southern entrances to the Norwegian Sea. The work was carried out by co-operation of Norwegian, Danish and Scottish vessels.

Poland. Salmon investigations have been carried out. Concerning hydrographical observations made in Poland it has been reported that Poland is now in a state of organisation. Several hydrographical observations have been made, but only of practical value, for navigation purposes or in connection with construction of a new port in Gdynia, but they are of no scientific importance. It was our intention to begin this year methodical hydrographical observations to be made at constant intervals and always in the same places; owing to various difficulties, however, we have not yet been able to put this into execution. It is hoped that next year it will be possible to furnish exact hydrographical observations from the Polish coasts.

Portugal. Le docteur RAMALHO a présenté le rapport suivant pour le délégué l'amiral NEUPARTH qui à été empêché a cause de maladie.

Des programmes de travail établis par les Comités et Sections et adoptés par le Conseil en 1914, seuls ceux de la Station Hydrographique et du Comité du Plateau Continental Atlantique ont trait au recherches scientifiques qui peuvent être entreprises par le Portugal. Des difficultés financières et autres n'ont pas encore permis de donner une organisation parfaitement efficace au point de vue des recherches; en tout cas, une Station de Biologie Maritime, l'Aquário Vasco da Gama, Dafundo (près Lisbonne) a été chargé d'une grande partie des travaux et à son directeur a été aussi confié la direction des travaux biologiques à bord du nouveau bateau océanographique l'"Albacora", construit sur le modèle de l'"Armauer Hansen", de l'Institut Océanographique de Bergen. L'"Albacora" est arrivé à Lisbonne en décembre 1924; il fut construit en Norvège et sous la direction scientifique de Monsieur le Prof. HELLAND-HANSEN, à qui sont dus les plus vifs remerciments pour sa compétence reconnue et sa gracieuse obligeance.

L'"Albacora" a déjà commencé les croisières en mai 1925.

Spain. La délégation espagnole a étudié la proposition relative au Service d'Information, envoyée par le Dr. MARTIN KNUDSEN, conformément à l'accord pris dans l'Assemblée d'Amsterdam en Mars de 1925, ayant résolu que les délégués qui assistent à la prochaine réunion de Copenhague appuient cette proposition si un accord y relatif était pris.

La délégation espagnole est en outre d'opinion qu'il conviendrait adopter un accord international avec le but d'empêcher la déstruction des baleines et des espèces analogues des cétacés.

Sweden. Fishery investigations were carried out in the Swedish fiords (Westcoast) and in the Kattegat with the "Skagerack" from 30th October to 11th November 1924.

From the 8th December 1924 to the 4th March 1925 the research steamer "Skagerack" was occupied with the usual reconnoitring expeditions after the herring in the Skagerack and the Kattegat thereby affording assistance to the fishing

vessels in search of the herringshoals by wireless information about the migrations of the herring in our waters.

From the 4th of March to the 1st of July the ship was under reparation.

From July to 1st August 1925 an expedition in the Skagerack and the North-Sea was made with the aim to ascertain the breeding place of the witch in the Norwegian channel, a research which, as we can judge from the results hitherto worked out, was successful.

The 7th August a hydrographic expedition in the Skagerack and the Kattegat started with the object to test new apparatus for determination of hydrographic constants which is still in action.

B. Investigations.

a. Hydrographical Work.

(For programme see Procès-Verbaux Vol. XXVIII p. 28, Vol. XXXII p. 22—24 and Vol. XXXIV p. 22).

Belgium. Continuation régulière des observations de la salinité et de la température à bord du bateau-phare West-Hinder.

Réinstallation du marégraphe à l'entrée du port d'Ostende dans des conditions meilleurs qu'avant la guerre. Copie et étude des tracés marégraphiques.

Prélèvement d'un échantillon d'eau à chaque mer haute des vives eaux et des mortes eaux à l'entrée du port d'Ostende. Chlorimétrie. Observations de la température de surface dans une traversée hebdomadaire entre Ostende et l'embouchure de la Tamise.

Denmark. I) Proc.-Verb. 1922, p. 30, item 9.

a) The measurements off Christiansø were commenced $^{11}/_{1}$ 1923 and ceased $^{19}/_{6}$ 1924. The observations (of temperature, salinity and oxygen) were taken every fortnight at the following depths: 0, 20, 40, 60, 80, 90 (97) metres.

b) Current measurements from the lightship Halskov Rev have not been carried out (as no similar measurements have been commenced by Sweden from the lightship Fladen). The previous long series of current measurements from the lightship Schultz's Grund was discontinued in the summer of 1922.

c) Current measurements from the lightship Horns Rev were undertaken from $^{1}/_{2}$ 1922 to $^{31}/_{1}$ 1925.

d) Surface observations (of temperature and salinity) are still being taken on the route Copenhagen—New York, about 400 observations yearly. On the Esbjerg —Parkeston route the collection of surface observations ceased in October 1924.

II) Proc.-Verb. 1922, p. 42.

ad III and IV: On the cruises in 1923 and 1924 with the investigation ship "Dana" in the Baltic hydrographical observations were made. The observations from 1923 were published in the Bulletin Hydrographique 1920—1923.

ad V: Observations from lightships and coastal stations have been undertaken by the Meteorological Institute.

ad VI: see under I.

ad VII: Experiments with measurement of sea-temperatures by means of thermographs have not been undertaken.

III) Proc.-Verb. 1923, p. 22—24.

ad 1) Regarding continuation of hydrographical measurements see under I.

IV) Proc.-Verb. 1924, p. 22.

With reference to the resolution: "The intensive observations on currents to be no longer obligatory" the Danish current measurements have been suspended (see under I).

Finland. See Baltic Committee.

France. Les recherches hydrologiques se confondent avec celles faites au nom du Comité du Plateau Continental Atlantique. Au point de vue général, elles sont la continuation de celles entreprises depuis la guerre par les savants français, et en particulier portent sur l'étude des transgressions dont les différents rapports Atlantiques publiés depuis 1921 ont montré toute l'importance au point de vue de la pêche.

Les croisières combinées entre l'Espagne, la France et l'Irlande d'une part, les voyages d'études du "Pourquoi-pas?" et des autres navires de recherche français, l'embarquement de spécialistes sur des navires de commerce, permettent d'augmenter continuellement nos connaissances sur le mécanisme de ces transgressions.

Au cours de sa mission, le C^{t} Rallier du Baty, concurremment avec ses études sur la biologie de la morue, fait un grand nombre de stations hydrologiques sur le Banc de Terre-Neuve.

Great Britain. England. The following work has been carried out in accordance with the resolutions of the Hydrographical Section (Rapp. et Proc. Verb. Vol. XXXIV, Sept. 1924, pp. 22 & 23).

Res. 1. Surface temperature and salinity observations have been made at the lightships "Smith's Knoll", "Varne", and "Seven Stones" every fourth day.

Similar observations are being made on the following commercial routes:—

North Sea	Tyne—Naze of Norway
	Hull—Skagerrak
English Channel	Newhaven—Dieppe
	Southampton—Le Havre
	Southampton—St. Malo
	Plymouth—Guernsey*
	Liverpool—Charente**
North Atlantic	English Channel—Brazil
	English Channel—West Indies.

* This is a new route for this area.

** This route has been re-started under the aegis of the M.B.A. Plymouth.

(Such sampling as is being maintained in the Irish Sea is now under the control of the Liverpool University Oceanographical Department).

The projected new route across the Atlantic has not yet been instituted.

Subsurface observations have been made on the customary Hydrographical line Tyne to Lindesnaes, from the Research Vessel "George Bligh" in the spring and autumn of the year.

The intensive observations on currents which have been carried out on the "Smith's Knoll" and "Varne" light-vessels since January, 1922, by means of the Jacobsen Meter, have now been discontinued.

Res. 2. Drift indicating instruments (Carruthers' type) are now in constant use on these two light-vessels.

Res. 3. The material called for under this resolution has been forwarded to the Bureau. As the English Channel surface observations of temperature and salinity could not be published in the Report of the Committee of the Atlantic Slope, they were included in the material forwarded to the Bureau.

Res. 4. The preparation of the material referred to in this resolution is in hand, and will be submitted for publication as a Publication de Circonstance immediately on completion.

The Ministry has published the two following hydrographical reports:—

Lumby, J. R.: "The Salinity and Water Movements in the English Channel and Southern Bight during the period 1920—1923". (Fishery Investigations, Series II, Vol. VII, No. 7, 1924).

Carruthers, J. N.: "The Water Movements in the Southern North Sea". — Part I — The Surface Drift. (Fishery Investigations, Series II, Vol. VIII, No. 2, 1925).

Scotland. The daily temperature observations from the nine selected stations on the coast of Scotland were continued. Serial temperature observations were also made in the Firth of Clyde area by the Fishery Cruiser "Vigilant".

On all the cruises of the Research Vessel provision was made for the collection of hydrographical data as part of the routine. The salinity determinations were carried out by the Government Chemist. The data collected during 1924 was submitted for publication in the Bulletin Hydrographique.

The hydrographical work is noted under the observations on the cruises of the Research Vessel.

Water samples were collected from the northern North Sea and from the Faroe-Shetland Channel for Dr. Atkins, Marine Laboratory, Plymouth.

Ireland. In addition to the work done in connection with the Atlantic Slope Committee, surface temperature observations, taken twice daily, have been resumed on the Coningbeg Lightship since 24th October, 1924.

Holland. In Holland the surface observations of temperature and salinity along steam routes in the North Sea and on board light-vessels (5 for temperature,

3 for salinity) have been continued, and the results up to the first quarter of 1925 have been forwarded to the Bureau; the results for the second quarter will be ready about 1st September.

An extension of the surface salinity observations towards the Southern Atlantic has been prevented by want of personnel for the titration.

The Marine Branch of the Dutch Meteor. Institute at De Bilt has started an investigation concerning the relation between the force of the NE and SE trade, the surface temperature and the velocity of the current in a number of squares in the North Atlantic, forming part of the squares mentioned in the Bulletin Hydrographique of 1919.

Sweden. Hydrographic expedition in the Kattegat and Southern Baltic 1st Sept. to 29th Sept. 1924 (with the steamer "Skagerack").

a). Inspection of the Swedish lightships stationed in the Skagerack, the Kattegat, the Sound and entrance to the Baltic. All these ships are provided with modern apparatus for observations of the temperature, the salinity and the currents of the Sea.

b). Hydrographic measurements on several lines across the Southern Baltic and current measurements in the strait between Skåne and Bornholm with the recording instrument of Pettersson and G. Ekman.

The Swedish Commission had obtained permission from the Government to execute hydrographic deep soundings on board H. M.'s cruiser the "Fylgia" between the Bay of Biscay and the African coast West of the Congo river, where a region of upwelling of cold antarctic deepwater was supposed to take place according to the foregoing observations of the German expedition with the "Planet" in 1906. The observer in charge, Captain Neumüller, executed 9 deepsoundings from the surface unto 1000 M. with exact determinations of temperature, salinity and density together with analyses of Oxygen and the ionisation of the water (P_H) which confirmed the conclusions we had drawn from the "Planet" observations: — viz. that cold water of relatively low salinity and with a highly reduced content of Oxygen rises, not to the surface, but to an intermediate niveau along the African Westcoast under the warm shallow water-strata of the Guinea current. These soundings were executed in November—March i. e. at the same season as the preceeding deepsoundings of the "Planet" expedition.

b. Plankton Work.

(For programme see Procès-Verbaux Vol. XXVII p. 36, Vol. XXVIII p. 26 and Vol. XXXII p. 22).

Belgium. Pêches planctoniques hebdomadaires avec le filet de Nansen, au bateau-phare West-Hinder.

Prélèvement d'un échantillon volumétrique de plancton à chaque mer haute

de vives eaux et de mortes eaux à l'entrée du port d'Ostende. Chlorimétrie. Analyse planctologique.

Denmark. Ad Proc. Verb. 1922 — 1 (1923—24). During 1925, extensive investigations have been carried out with regard to the food of the herring, on the same lines as those of 1924. In various parts of the Danish waters, samples of seine herring were collected, together with plankton samples, throughout the duration of the herring fishery at the locality in question. With material from the two years, it should be possible to gain a good impression as to the food of the herring in Danish waters at different seasons of the year.

Ad Proc. Verb. 1921 — 7 (1922—23). The type collection of plankton organisms already formed has been augmented by further collections.

On the cruise of the marine research vessel "Dana" to the Færoes, Iceland and Greenland in 1924, plankton collections were made to an especial degree in Davis Strait.

Treatment of the plankton collections from Ringkøbing Fjord has been continued.

Finland. The investigations of the littoral vegetation, of plankton at different localities on the Baltic coast have been continued. An hydrobiological expedition to the coastal waters of the Finnish coast of the Arctic Sea was made in the summer of 1925.

Great Britain. England. The new Standard International Plankton Net has been given a trial, and will in future be used in place of the Nansen and Apstein nets.

Another cruise was made in November, 1924, to chart the occurrence of *Rhizosolenia styliformis* but although the areas where it had been found in abundance in previous years were covered, practically none were found. The report on this will not be completed until after another cruise has been made.

The quarterly survey of the plankton of an area on the western side of the North Sea referred to last year (Proc. Verb. XXXIV, p. 45) was carried out, and so far the catches from one cruise have been examined.

Report published during the year:—

R. E. Savage: "The Food of the Oyster. (Fishery Investigations, Series II, Vol. VIII, No. 1, 1925).

Scotland. During the periodic cruises of the Research Steamer plankton collections were made to ascertain the conditions prevailing on the fishing grounds. Intensive plankton observations were made on the herring fishing grounds and on the spawning grounds of the herring and haddock.

A general report on the plankton conditions in the northern North Sea is now in course of preparation.

Ireland. The collections made on the Atlantic Slope area have been examined and an estimate made of the relative numbers of the developmental stages of *Calanus finnmarchicus* which are present at different seasons, for the purpose of

determining the breeding period of that species. A reference collection of Plankton forms (mainly Copepoda) is available for distribution or loan.

Sweden. Plankton investigations were made in the Skagerack and Kattegat, in conjunction with the investigations as to food of the herring.

In the middle Baltic waters, investigations have been commenced with a view to ascertaining the variations in the animal plankton of that region at different seasons.

c. Statistics.

(For programme see Procès-Verbaux Vol. XXXII p. 44, Vol. XXXII p. 26 and Vol. XXXIV p. 24).

Belgium. Statistique du marché d'Ostende.

Feuilles de pêche remplies par les patrons-pêcheurs.

Denmark. The general statistics are collected and published for each of the principal waters round Denmark viz. the North Sea, Skagerack, Kattegat, Belt Sea, Sound, Western Baltic and true Baltic. For the large fishing places a monthly specification of the catch is published and a great material is collected upon which more detailed statistics can be worked out.

France. A la demande du Comité de Statistique du Conseil International, l'Office Scientifique et Technique des Pêches Maritimes, d'accord avec l'administration de la Marine Marchande a développé largement les statistiques françaises. Aux statistiques officielles, viennent s'ajouter de nouvelles données sur la valeur des captures des produits pêchés par régions de pêche. L'Office des Pêches se charge de la publication semestrielle de ces résultats. Les régions de pêche précisées dans ces statistiques correspondent à celles qui avaient été délimitées sur une carte dressée par M. LE DANOIS et approuvées avec quelques modifications, par le Comité statistique réuni à Londres en 1924.

Great Britain. England. The standardised regions and sub-regions were introduced into the English Statistics in 1924 and particulars of landings from each sub-region for that year have been furnished to the Bureau for inclusion in the Bulletin Statistique.

A special Table showing for certain of the standard regions the total catch and catch per unit of fishing time, each year 1906—1914 and 1919—1924, for each fish taken by each of the important bottom fishing methods was inserted in the Statistical Tables, 1924, issued by the Department.

Scotland. Statistics are collected as part of the routine and squared charts are used for the purpose of showing fishing results.

Ireland. Statistics of quantities and value of fish landed have, as in the past, been sent regularly to the Bureau.

Sweden. Figures for sizes of hauls in the various districts of Sweden have been collected, as also for value of hauls, no. of vessels engaged, implements etc. Investi-

gations have been made in the Fishery Harbour of Gothenburg as to size of hauls from there.

d. Herring.

(For programme see Procès-Verbaux Vol. XXVII p. 28 and Vol. XXVIII p. 24).

Belgium. Statistique des débarquements de harengs au port d'Ostende. Continuation.

Denmark. Herring. The following points have been dealt with:—

a) Location of spawning places.
b) Investigations as to the distribution of larvae of the winter-spawning Herrings in the Skagerack, Kattegat and Belt Sea.
c) Investigations as to the diurnal vertical movements of the Herring larvae in the Kattegat and Belt Sea.
d) Investigation as to the racial characters of Herrings from different waters.
e) Investigation as to the rate of growth of the Herring.

Mackerel. Investigations have been carried out as to the Influence of currents and of the temperature upon the frequency of the Mackerel in the Kattegat and adjacent parts of the Skagerack. A paper on this subject has been published by Dr. A. C. Johansen in Medd. fra Kommissionen for Havundersøgelser, Ser. Fiskeri, Bd. VII, No. 8, 1925.

France. Les recherches françaises sur le Hareng ont été continuées, et en vue d'une unité de méthode, M. le Gall, attaché à l'Office des Pêches Maritimes, à Boulogne s/Mer, a effectué une mission en Norvège. Au cours de celle-ci, non seulement il a pris contact avec nos collègues Norvégiens afin de s'inspirer de leurs méthodes de travail mais il a commencé quelques recherches directement appliquées à la pêche sur le Banc Wiking au mois de Mai 1925. M. le Gall, qui est appelé par suite de son poste à Boulogne s/Mer à étudier spécialement la question du hareng, a commencé à réunir des données d'ensemble sur ce poisson et les endroits où on le rencontre en France. Il entreprendra ultérieurement une étude sur les races locales françaises.

Great Britain. England. Work has been done in accordance with the Resolutions as follows:—

2) Samples of Herring have been obtained from Grimsby, Lowestoft, and North Shields for the collection of data in connection with the investigations into the length, age and maturity of the Herring of the Southern North Sea. In all 24 samples have been examined.
4) Collections of larval and post larval herrings were made by means of Petersen's Young Fish Trawl in the following months and regions:—

November 1924. In the rectangle bounded by latitudes 55° and 52°30′ N. and by longitudes 0° and 4° E., the 20 stations worked being at approximately equal intervals over this area.
February 1925. Off Cape Gris Nez and off the Southern part of the Dutch coast.
April 1925. Thames Estuary.

A report on the work of previous years on larval and post larval herring was issued*).

In addition to these collections with the Petersen Trawl, over 500 individuals in their second life-year having a mean length of 9,8 cm., were captured in the Thames Estuary in April, 1925, by means of a small otter trawl possessing a Cod-end composed of Shrimp netting.

The distribution and origin of 0-group herrings in the Whitebait (i. e. post-metamorphosis) stage in the Thames and along the East Coast as far North as Bridlington Bay will be discussed in a report now in preparation. This report will deal with material collected during the period 1913—1923.

The collection of material for the work on the distribution of the 1-group has been continued during this year. In September 1924 a catch of 495 fish of this group was taken North of the Tail End of the Dogger Bank. The average length of this group was 16.21 cms. In October, 1924, further work was done at (a) Inner Herring Trawling Ground (54°51′ N., 0°33′ E.), (b) "Flamborough Off" ground (54°12′ N., 0°53′ E.).

5) During the current year, a report dealing with the period and rate of growth of English herrings, has been issued **). The second part of this report is in preparation.

Further data for estimates of the growth-rate of postlarval herrings will be available when the collections mentioned in paragraph No. 4 have been worked up.

The growth-rate of the 0-group in the Whitebait stage will be dealt with in the forthcoming report mentioned under (4).

7) During the cruise of the "George Bligh" in November, 1924, notably large swarms of recently hatched larvae, indicating the vicinity of important spawning places, were met with at 54°15′ N., 2°20′ E. and at 53°15′ N., 1°29′ E.

The spawning areas of the herring in the Southern North Sea and Channel, in so far as the data at present available enable them to be defined, have been dealt with in Dr. Wallace's report and will be further considered in the report mentioned in paragraph (4).

Scotland. (The Sections refer to the recommendations of the Herring Committee of the International Council, Procès-Verbaux, Vol. XXVII, p. 30, July 1921. Proc. Verb. Vol. XXXII, p. 22) 1, 2, 3. As indicated in previous reports the items in these three sections are part of the normal routine.

* W. Wallace. First Report on Young Herring in the Southern North Sea and English Channel — Part 1. — Distribution and Growth of Larval and Post Larval Stages, with Appendix on Water Movements by J. N. Carruthers. — Fishery Investigations, Series II. Vol. VII. No. 4. 1924.

** W. C. Hodgson. Some observations on the Scales and Growth of the English Herring. Fishery Investigations, Series II. Vol. VII, No. 8. 1925.

4, 7) The work carried out comprised a detailed study of the Clupeoid material secured by mid-water nets of fine mesh during the years 1904—1914 (incl.) in the area 54° to 62° N. and 11° W. to 5° E. A report on this pre-war larval and post-larval material is now ready for publication. Special attention was paid to the occurrence of the post-larvae of the spring and autumn broods on the East Coast of Scotland and to their relation to the youngest scaled sizes found in such large numbers in the shallow coastal areas and in estuaries.

The collection of information regarding the occurrence of 'spawny haddock' was continued.

5) An intensive investigation of the relationships between the spring and autumn spawned broods and of the younger year classes of herrings in the estuaries of the East Coast of Scotland and in the coastal areas immediately adjacent has been carried out. The experiments are still in progress but a preliminary report is in course of preparation embodying the results of the examination and measurement of over 30,000 individuals, a very high percentage of which — especially of the larger sizes — has been subjected to scale analysis.

6) No investigations of the race differences by means of a study of morphological characters has been undertaken during the year.

8, 9) Detailed examinations of the food contents of estuarine post-larval herrings have been carried out and the food contents of older herrings noted in the various samples procured for age determination.

10) Forty-five adult herring were placed in the aquarium in June 1924 with the object of experimenting with various types of marks, but these gradually died off, the last survivor having been eight months in captivity.

11) Hydrographical and biological observations were carried out on the fishing grounds. (See under Hydrography).

Ireland. Statistics of the Herring fishery in accordance with resolution 1 of 1921 have been collected.

Representative samples from N.E. and S. coasts of Ireland have been measured and age determinations made by scale examination. Eight samples have been examined by Mr. Storrow at Cullercoats and three in Dublin.

Holland. From 4th to 29th June 1925 a trip by the "Triton" to the northern herring grounds between Shetland and Norway took place. Plankton samples from different depths were collected and the Norwegian method of reading herring scales was studied at Bergen.

Norway. From the fat and small herring fisheries 21 samples have been investigated and from the large and spring herring fisheries 35 samples. The samples have been examined as to age and growth, and the results have given a fairly good view of the present condition of the Norwegian stock of herring.

The predominance of the year-classes 1918 and 1913 is still evident, though

somewhat tempered by the admixture of younger year-classes, none of which, however, can be considered as very numerous.

In February this year a cruise was made in the fiords of Vesteraalen (N-Norw.) to study the fat herring hibernating there, and in March some experiments were made in the spring herring district with artificially fertilized herring eggs in order to study the development under conditions as much like the natural ones as possible. Mr. Lea will later on give a communication about the results of these investigations.

Sweden. Herring investigations have been carried out in the Skagerack, see p. 69—70.

In the Baltic, investigations have been made as to the races of herring; also distribution, growth, year-classes etc. of the different races. A work on this subject is ready for publication. Investigations have also been made with regard to food of the herring.

e. Sprat.

Norway. The sprat fisheries of Norway were more extended in 1924 than in the preceding years. Samples for the investigations were collected from the Oslo fjord and northwards to the Trondhjem fjord. About 180 samples were collected and measured in order to follow the movements of the shoals and to judge the strength of the stock. About 40 of these samples were studied as to age and growth. The sprat caught in the Norwegian fjords being for the greater part in the second summer, the study of growth is mostly limited to growth during the first summer, the young fish growth. From these investigations, however, very interesting results have been arrived at, especially on the correlation between the growth in the different districts and the drift of eggs and fry in connection with the spawning period. Several cruises have been made during the season in the fjords near Stavanger and in the Sognefjord in order to study the hydrographical and biological conditions during the fishery season. A report on the investigation will be published in "Aarsberetning vedkommende Norges Fiskerier" for the current year.

Sweden. Investigations have been made in the Baltic as to the occurrence of sprat on the Swedish coasts, and also biological features, spawning grounds, growth, year-classes etc.

f. Cod and Haddock.

(For programme see Procès-Verbaux Vol. XXVII p. 32, Vol. XXVIII p. 38 and Vol. XXXII p. 26).

Denmark. Observations as to the distribution and frequency of the pelagic young of cod and haddock have been undertaken in the eastern part of the North Sea, the Skagerack, Kattegat and Belt Sea in April of 1925.

France. Laissant de côté la pêche à la morue et le l'églefin dans nos eaux françaises, dans lesquelles ces poissons n'apparaissent que sporadiquement, nous

avons continué nos recherches dans la région de Terre-Neuve. Le Capitaine Rallier du Baty est parti, au mois d'Avril 1925, pour le Grand-Banc et fait actuellement des recherches sur la biologie de la morue. C'est la continuation logique des missions qui avaient été effectuées en 1922 et en 1923 par M. le Danois et qui avaient amené celui-ci à indiquer les raisons des bonnes et des mauvaises campagnes de pêche.

La mission de M. Rallier du Baty qui comportera une plus longue durée sur les lieux de pêche, est susceptible d'apporter de nouveaux renseignements sur les migrations et la pêche de la morue dans les eaux américaines.

L'Office des Pêches Maritimes assurera, comme par le passé, la publication de ces résultats qui sont en dehors du secteur géographique du Conseil International.

Great Britain. England. Investigations into the distribution, food, enemies and growth of larval cod have been carried out by monthly cruises of the research vessel in 1924. A paper dealing especially with the relation of the distribution of the larvae to the currents is in preparation. In the course of this work it was found necessary to consider specifically the fishing of Petersen's Young Fish trawl and a paper on the subject has been published:—

A. C. Gardiner and Michael Graham: "The Working Error of Petersen's Young Fish Trawl". (Fishery Investigations, Series II, Vol. VIII, No. 3, 1925).

Fishing for early bottom stages with covered nets has been carried out, but the results have not been uniformly successful. This has been continued to include the market category "Small" and a quantity of material (scales, otoliths, bones) for the determination of age has been collected. This material is being examined especially on the technical aspect and from the point of view of the comparison of the phenomena exhibited by the different parts of the same individual.

Investigations have therefore been concerned with points 4, 5, 6 and 11, of the 1921 programme.

Tank experiments designed to determine the most suitable mark for small round fish such as codling are still in progress at the Dove Marine Laboratory at Cullercoats.

Scotland. As in the previous year the trawling cruises of the Research Vessel were directed mainly to the investigation of the Haddock.

(The following sections refer to the recommendations of the Cod and Haddock Sub-Committee of the International Council. Procès-Verbaux Vol. XXVII, p. 34, July 1921, Proc.-Verb. 1923 Vol. XXXII p. 26 and 1924 Vol. XXXIV pp. 26—28.

1—5) Special hydrographical and plankton collections were made on the trawling cruises within the haddock spawning areas.

6—7) On all the trawling cruises the cod-end of the ordinary commercial trawl was covered with fine-meshed netting and the experiments were devised to map out the distribution of the successful brood of 1923 and the new brood of 1924. At the end of 1924 the 1923 brood was just approaching 'extra small'

size (except in the areas of fast growth, such as the Dogger Bank, where they were already, at 2 years old, medium fish). During the past five years there have been two exceptionally good spawning seasons (1920 and 1923), two exceptionally bad ones (1921- 22) and one (1924) which is likely to prove of a normal character, although it will take much longer to establish exactly what is a normal year's production of haddock.

A comprehensive revisionary report covering these five years of work will probably appear this year.

8, 9, 11) The intensive analysis of the haddock stock of the North Sea (and when occasion offers of adjacent regions) inaugurated in 1922 was continued. A firm basis from which to work has been established in the method of age assessment. In all, over 16,000 individual fish were scale-aged, and from the applied results it was calculated that the successful 1920 brood again formed the bulk of the available North Sea haddock population. In 1923 70.5 per cent. of the sampled fish belonged to this age group, the corresponding figure for 1924 being 73 per cent. This close correlation in the figures extended to the other age groups, the 1922 and 1921 broods remaining practically negligible in numbers.

Under the scheme of co-operation with the Ministry of Agriculture and Fisheries (England) the extensive ichthyometrical and statistical data for the haddock are delegated to Scotland for treatment. In addition to the numerous scale samples collected on the Research Steamer and in the Markets for the detailed analysis of the haddock data, scale samples collected by Dr. JOHANSEN, Denmark, from haddock caught on the Jutland Coast, have also been utilised.

10) The trawling grounds were sampled by means of the Petersen Bottom Sampler and the stomach contents of haddock and other species caught in the trawl hauls examined.

12) The operation of marking haddock at sea has not yet proved more successful than the difficulties would lead one to expect; however the preliminary stages are being passed, and it has been decided that only line-caught haddock lightly hooked through the lip and (possibly) fish taken in the seine net are suitable for marking. No trawl-caught marked haddock has been recaptured after liberation.

14) The question of the efficiency of the continually changing types of fishing gear has received attention.

Ireland. No investigation has been carried out.

Norway. During the fishing season of 1925, observations on the cod and haddock stock were carried out to the same extent as in the preceding years.

The outstanding facts brought to light were, 1) that the skrei (spawning cod) were very scarce south of Lofoten, but plentiful in this district and farther

to the north, shoals of spawning fish being even met with far east of the North Cape, e. g. in the Porsanger fjord, 2) that the skrei were mostly of unusually large size, being composed to a large extent of the 1912 and 1915 year-classes 3) Only in the latter part of the season did smaller fish appear, smaller in fact than have been caught for many years during this season. They belonged to the year-class 1919, thus furnishing the first instance known of the appearance of any quantity of 6 year old fish among the spawners, this age as well as 7 years being hitherto met with in very small numbers. This mass-incursion of fish from so young a year-class must be taken as an evidence of the great numbers of fish spawned in 1919, thus confirming the forecast made in this respect based upon the winter precipitation in 1918—19.

Hydrographical observations were only made to a limited extent during the skrei season, but were of great value in so far as they confirmed in a striking manner the opinion earlier arrived at that the spawning cod is strictly limited to a waterlayer with temperature between about 4 and 6 degrees C. In 1925 the last-named of these limits was found at only 70—80 metres against usually 100—200 metres and it was ascertained that the fishing gear had to be set at a corresponding level, often involving anchoring of the nets etc. at a very considerable distance from the bottom.

Sweden. General statistics have been collected. Measurements and age determinations have been made from the research vessel "Skagerack" and in the Fishery Harbour of Gothenburg; also, with regard to the cod, in the Baltic.

g. Plaice.

(For programme see Procès-Verbaux Vol. XXXII p. 28).

Belgium. Continuation des pêches hebdomadaires dans la région côtière. Analyse et tabulation.

Denmark.

a) Investigations as to the distribution and frequency of the 0-Group of plaice in the shore waters of the Skagerack, Kattegat and Belt Sea have been carried out in July—September 1924.

b) Measurements of plaice caught with seines of different mesh width in the northern Kattegat have been undertaken in August and September 1924.

c) Investigations about the frequency of the pelagic larvae of the plaice in the Kattegat and Belt Sea were undertaken from the "Dana" in April of 1925.

d) Investigations as to the density of the plaice population in the Horns Reef area were undertaken from the "Dana" in April of 1925, the various year classes being separated.

e) Marking experiments have been undertaken on the following places in the Horns Reef area in April of 1925:—

St. 3322 at 55°04′ N. 7°47′ E. 20 m 100 plaice marked
St. 3329 - 55°37′ - 7°48′ - 14 - 70 — —

f) Transplantation experiments.

From the above named St. 3329 in the Horns Reef area samples of plaice were transplanted:—

a) to the Jutland Bank at 56°55′ N. 7°36′ E., 28 m; 200 specimens were marked;
b) to the western Entrance of the Skagerack, at 57°10′ N. 8°45′ E., 15 m; 130 specimens were marked.

Great Britain. England. Ichthyometric work was continued on Trawlers and Seiners in the North Sea and on the markets at East Coast ports. The latter measurements are designed to determine approximately the current significance as to size of the categories recognised on the markets and in Statistics. In all 570,864 Plaice were measured at sea and 50,656 on the markets.

Otoliths were collected in April along an unbroken line from the Leman ground to Haaks Light Vessel as in several previous years; 5451 otoliths were taken on this cruise. From the eastern extremity of the line Dr. Tesch carried out similar researches shoreward to the Dutch Coast. Age-determination has been completed on the whole of the English material, and a Report on the results is in progress.

In June the "George Bligh" visited the areas whose closure has been recommended. Over 6,000 Plaice were measured, and 1,500 in all were marked at four stations in these areas. It is hoped that the recoveries will increase the information available as to movement of the Plaice from the "closed" areas with growth.

The following report has been published:—

Borley, J. O. and Thursby-Pelham, D. E.: "Report on the English Plaice Investigations in the North Sea during the years 1921—1923". (Fishery Investigations, Series II, Vol. VII, No. 6).

During the last year the work with the Petersen Grab has been continued and the results of all the investigations by the Ministry with the instrument since 1921, are the subject of a paper by Mr. Davis now in the Press. In the main the results are as follows:—

1. An attempt has been made to correlate the occurrence of various species with different types of soil, and the results of this work indicate that there is a definite relationship between non-carnivorous bottom animals and their surroundings.
2. It is suggested that the cause of the soil association of such animals is to be found in the modification of each group of animals in respect of its method of feeding.
3. It is considered that one of the main causes of the fluctuations of the Benthos is to be found in the fact that many species are confined to certain soils, for since they are dependent on the current to carry their larvae into a favourable

position for spatfall; and since currents are largely subject to variation in direction and strength, it is a matter of chance whether the brood spawned by any adult group will light on favourable ground for development and thus produce a heavy spatfall.

4. It is believed that, although the stock of food for fish is always apparently sufficient to support a normal fish population, fluctuations of Benthic food may be of importance to Fisheries, inasmuch as they will lead to the concentration of fish into local areas in years of abundance, the fish stock being more scattered in other years.
5. An experiment as to the possibilities of attempting to produce artificial concentrated spatfalls and hence artificial concentrations of fish is considered to be worth while attempting.
6. The Community Hypothesis of Petersen has been discussed in the light of the work on the Soil Associations. It is concluded that although in principle Petersen's hypothesis is correct, i. e., that animal associations exist, in detail those communities that Petersen has found are not all homogeneous in nature or comparable with one another, from the point of view of soil association.

Some attention has been paid to the question of the relation between cod-end mesh and the size of both flat and round fish caught. In this preliminary stage of the work a bifid cod-end is being used, one leg having say a 2 inch mesh, the other a 3 inch, or in the case of trawling for flat fish a 3 inch and a 4 inch mesh respectively. Interesting results are being obtained, and the work will be continued and developed.

Holland. In connection with English current investigations on plaice on the Leman-Haaks-line, that the English research vessel "George Bligh" and the Dutch police cruiser "Triton" met on May 26th 1925 near "Haaks" Light vessel and trawled that day in opposite directions (the "Triton" proceeding to the Dutch coast); the whole catch of plaice was analysed and otolithed, and the results were forwarded to Mr. J. O. Borley at Lowestoft.

Scotland. (Procès-Verbaux 1921 p. 52, 1923 p. 28, 1924 p. 28).

The trawling cruises of the Research Steamer were devised mainly for the investigation of the haddock, but certain observations were made in inshore areas for the investigation of the plaice. During the year over 4,000 plaice were captured and these were otolithed for the purpose of age determination. In addition a total of 729 plaice was marked and liberated. These were mainly plaice of under 30 cms. in length which were captured and marked in the coastal areas on the East of Scotland, but a number of larger plaice was also marked and liberated on the north and north-west of Scotland.

Sweden. Fishery-biologic expedition in the Baltic with the "Skagerack" 14th October—31st October. This expedition was a continuation of a series of expeditions executed during the summer 1924 in the middle and northern parts

of the Baltic with the Motorship "Eystrasalt" in order to study the life and the migrations of the flatfish (plaice, flounder, dab) in the Baltic.

Fishery experiments with the Saving trawl were carried out.

Witch Investigations have been made with a view to discovering a method of age determination for this fish, and a work on the subject: Observations on the Witch, by Arvid R. Molander, has recently been issued in Publications de Circonstance (No. 85).

For further investigation of the biological conditions (spawning grounds, distribution of young fry etc.) an expedition was made with the "Skagerack" in July 1925, to the Skagerack and the North Sea.

In the course of this expedition, the whole of the Skagerack was investigated, with the eastern part of the North Sea from Hanstholm to the Ling Bank and northward to 59° 39′ N. From the results, it appears hardly likely that any spawning of these fish takes place in the Skagerack. Spawning witch were however, found round the Ling Bank at a depth of 80—90 metres, and on a bottom consisting of loose clay or ooze. The bottom temperature was abt. 7° C, and salinity 34.8—35.00 ‰. Similar bottom conditions at this depth are only exceptionally met with in the Skagerack. The spawning fish exhibited very distinct secondary sexual characters, and were not less than 36 cm length.

Numerous investigations were made as to the distribution of the witch at different depths. Bottom stages of less than 12 cm length were not found. Eggs and planktonic larval forms of the witch appear to be few in the Skagerack.

Plaice. The investigations as to occurrence of plaice in the fjords of the west coast have been continued. The bottom production of fish food was investigated at the same time.

In the Baltic, investigations are in progress as to the influence of the fishery upon the stock of plaice, measurements and age determinations being made for this purpose.

h. The Committee of the Atlantic Slope.

(For programme see Procès Verbaux Vol. XXXIV p. 24).

France. Special report published.

Great Britain. England. In accordance with arrangements made at the meeting of the Interdepartmental Committee on Fishery Investigations held in Dublin on April 5th, 1921, the International Hydrographic Stations L1 to L6, E1, E2, E3 between Plymouth and Ushant, N1 and N2 between Ushant and the Scilly Isles, N3 and E6 in the Bristol Channel, have been worked periodically by the s.s. "Salpa" of the Marine Biological Association.

All the data obtained are communicated to the International Council at Copenhagen, l'Office Scientifique et Technique des Pêches Maritimes at Paris and

to the Ministry of Agriculture and Fisheries at Lowestoft, the salinity of the samples of water being determined by the Government Chemist.

In addition to the ordinary hydrographic routine being carried out, samples of water collected during these cruises have been utilised by Dr. W. R. G. Atkins to determine the seasonal variation in dissolved phosphate content and hydrogen ion concentration, by Mr. H. W. Harvey in an investigation upon the variation in oxidising properties of sea water from different depths and position, and in determining the seasonal variations in nitrate content.

A general account of the hydrography of the English Channel has been prepared by Mr. H. W. Harvey at the invitation of Dr. le Danois for publication in the Rapport Atlantique for 1925.

The following papers, dealing with the observations made and water samples collected, while engaged in carrying out the programme of the Atlantic Slope Committee, have ben published:—

"The Hydrogen Ion Concentration of Sea Water in its Biological Relations", W. R. G. Atkins, Jour. Mar. Biol. Assn. Vol. XII, p. 717, Oct. 1922.

"The Respirable Organic Matter i Sea Water", W. R. G. Atkins, J.M.B.A. Vol. XII, p. 772, Oct. 1922.

"The Hydrogen Ion Concentration of Sea Water in relation to Photosynthetic Changes", Part II, W. R. G. Atkins, J.M.B.A., Vol. XIII, p. 93, Dec. 1923.

"The Phosphate Content of Fresh and Salt Water in its relationship to the growth of Algal Plankton", W. R. G. Atkins, J.M.B.A., Vol. XIII, p. 119, Dec. 1923.

"The Silica Content of some Natural Waters and of Culture Media", W. R. G. Atkins, J.M.B.A., Vol. XIII, p. 151, Dec. 1923.

"Note on the Oxidisable Matter of Sea Water", W. R. G. Atkins, J.M.B.A., Vol. XIII, p. 160, Dec. 1923.

"On the Vertical Mixing of Sea Water and its Importance for the Algal Plankton", W. R. G. Atkins, J.M.B.A., Vol. XIII, p. 319, Nov. 1924.

"The Hydrogen Ion Concentration of Sea Water in its relation to Photosynthetic Changes", Part III, W. R. G. Atkins, J.M.B.A., Vol. XIII, p. 437, Nov. 1924.

"On the Thermal Stratification of Sea Water and its Importance for the Algal Plankton", W. R. G. Atkins, J.M.B.A., Vol. XIII, p. 693, March, 1925.

"Seasonal Changes in the Phosphate Content of Sea Water in relation to the Growth of the Algal plankton during 1923 and 1924", W. R. G. Atkins, J.M.B.A., Vol. XIII, p. 700, March, 1925.

"Hydrographic features of the water in the neighbourhood of Plymouth during the years 1921 and 1922", H. W. Harvey, J.M.B.A., Vol. XIII, p. 225, Dec. 1923.

"Water Movement and Sea Temperature in the English Channel", H. W. Harvey, J.M.B.A., Vol. XIII, p. 659, March, 1925.

"Evaporation and Temperature Changes in the English Channel", H. W. Harvey, J.M.B.A., Vol. XIII, p. 678, March, 1925.

"Oxidation in Sea Water", H. W. Harvey, J.M.B.A., in press.

The data are also being used by Mr. F. S. Russell in an investigation of the vertical distribution of plankton and young fish, and samples of water have been collected for the determination of variation in the plankton fauna by Dr. M. V. Lebour.

Fifty floating and bottom trailing drift bottles were released at Stations E2 and E3 in July, 1924, by the Marine Biological Association simultaneously with the release of other bottles further eastward by the Ministry of Agriculture and Fisheries.

Ireland. In accordance with the recommendation passed at the last meeting of the Council, the programme of Hydrographic investigations of the S. coast of Ireland has been modified so as to include observations in the neighbourhood of the isohaline of 35.00 $^0/_{00}$, while retaining the line of stations along 8°00′ W., the whole forming part of the scheme of a combined cruise by France, Spain and Ireland along the Atlantic Slope which was approved of at the meeting of the Atlantic Slope Committee at Paris on 7th Jan. '25. The Irish programme now consists of (a) a line of stations along 8°00′ W. as far S. as 49°00′ S., returning along 9° W. (11 stations), (b) a line 70 miles S.S.W. from Fastnet Light Co. Cork, thence 40 miles E.N.E., returning along a line N.N.E. (9 stations), (c) a line across the Irish Sea from Howth, Co. Dublin to Holyhead (4 stations). Hydrographic observations are made on all stations from surface to bottom, and Plankton collections, with the Nansen net, when circumstances permit. Observations on a and b were made in November 1924, on a and c in March 1925 and on a, b and c in May 1925.

Portugal. En accord avec le n° 5 du programme, une croisière a été faite avec l'"Albacora", de mai à juillet, dans la côte méridionale du Portugal (Algarve) et jusqu'à Madeira et les ilots Selvagens (30°-latitude N). Une autre croisière va commencer pendant le mois d'août, dans l'Algarve, et d'autres suivront, toujours avec l'"Albacora".

Le n° 6 du programme n'a pas pu être rempli en vertu de circonstances diverses qui, malheureusement ont empêché la rencontre des experts de l'Espagne et du Portugal.

Au n° 7, le Portugal a participé en faisant la croisière déjà mentionnée.

Le n° 9 n'a pas, non plus, été rempli, les naturalistes indiqués n'ayant pas été mis en rapport les uns avec les autres.

Les travaux en cours s'adressent plus particulièrement à la connaissance de la biologie du Thon (Thunnus thynnus) et de la Sardine. Une mission spéciale a déjà commencé les recherches en juin 1924. En même temps des observations océanographiques sont faites pendant les croisières de l'"Albacora".

Spain. La Délégation espagnole a entrepris deux campagnes aux Côtes Atlantiques espagnoles, d'accord avec les stipulations du Comité du Plateau Atlan-

tique. Le labeur réalisée au mois de février a dû se limiter, à cause du mauvais état de la mer, à l'établissement de six stations au large du méridien 6° W de Greenwich.

En continuant les travaux, pendant le mois de mai, 31 stations furent fixées en suivant les méridiens 6°, 8° et 9° W de Greenwich et la parallèle 43°53,5′ Nord. Le Laboratoire Chimique est actuellement en train de faire l'analyse des eaux apportées, et aussitôt ce travail terminé la liste des observations faites sera remise au Conseil.

i. North Atlantic Committee.

(For programme see Procès-Verbaux Vol. XXXIV p. 30.)

Denmark.

1) Since the autumn of 1924 hydrographical and biological observations have been carried out at certain intervals at a fixed station in Faxe Bay by the Danish Inspection-ships "Fylla" and "Islands Falk" and by the Icelandic Inspection-ship "Thor".
2) During the summer of 1925 the Danish Inspection-ship "Islands Falk" has carried out hydrographical and biological research off the west coast of Greenland.
3) Investigations from the Research-steamer "Dana" at the Faroe Islands, W.coast of Greenland and Iceland and in the waters between these regions.
   A) Faroe Islands. Hydrographical-biological investigations in May (and August).
   B) W.coast of Greenland. June and July: Hydrographical-biological investigations with special regard to the life-history of the Cod.
   C) Iceland. Hydrographical-biological investigations in August.

The work at Iceland and Faroe has been made in continuation of the "Dana"s work in 1924 and in accordance with the programme of the North Atlantic Committee.

Marking-experiments with Cod have been made in spring at the S.coast of Iceland (by the Icelandic Inspection-ship "Thor" and in summer at the Faroes, W.coast of Greenland and Iceland ("Dana" and other vessels).

The material collected in 1924 has been worked up for publication in the Report of the North Atlantic Committee for 1924.

(Racial investigations on the Cod have been carried out by the Carlsberg Laboratory).

France. Conformément à ses engagements, et afin de fournir des renseignements à notre collègue, le Dr. Schmidt, sur l'hydrologie de l'Atlantique Septentrional, nous avons fourni, en 1924, les résultats de sections hydrographiques pratiquées autour de l'Islande par le navire de guerre "Ville d'Ys". Ces renseignements paraîtront dans le Rapport du Comité de l'Atlantique Septentrional.

Pour continuer ce travail, le Ct Charcot fera cette année, dans les mêmes

parages, vers le mois d'Août, des stations hydrologiques, au cours d'une croisière d'été.

Les statistiques par régions de pêche, éditées par l'Office des Pêches, fournissent des chiffres spéciaux sur la capture des morues pêchées en Islande et déchargées en France (Région Va).

Great Britain. England. As a contribution to the work of the Committee observations were made and material collected on an English Steam Trawler in Icelandic waters by two fish measurers. The work was carried out in accordance with the requests of Dr. SCHMIDT. The whole Plaice catch (6,250) and 2,250 Cod were measured. Otoliths were taken from 106 Plaice, records being made of sexes, length and maturity of each of these fishes.

Scotland.

1) During the month of June 1925 the Scottish Research Vessel "Explorer" carried out investigations at Iceland in order that the continuity of observations in that area might be maintained. A series of trawling observations with a commerical trawl with a covering of small mesh on the cod-end was carried out round the island and in addition hydrographical and plankton observations were made at all trawling stations. All fish captured were measured and sexed and records kept of the food contents. Large representative samples of the haddocks caught were scaled for age-assessment and cod and plaice were otolithed for the same purpose. 101 small halibut, 375 lemon soles and 30 haddocks were marked and liberated.
2) Hydrographical sections between Iceland and Faroe, and between Faroe and Shetland were examined.
4) A series of comparative fishing experiments with the commercial trawl and with a 50-foot otter trawl used by the "Dana" was made in February—March 1925.
5) Scale-age determinations of Faroe and Icelandic haddocks were made from samples obtained periodically in Aberdeen Market.

In accordance with the resolutions of the North Atlantic Committee, Scotland is to undertake the examination of the haddock scale material from Faroe and Iceland. A very large supply of material, consisting of over 10,000 samples collected from different parts of Icelandic waters over a number of years, has been received from Dr. SCHMIDT, and has been examined for age and growth rate.

k. Eel investigations.

Denmark. Sorting and identification of the material of Eel-larvae and prelarvae from the "Dana"-Expedition 1921—22 continued.

Racial investigations with *Conger vulgaris* continued. (Material from England, the Azores and the Mediterranean).

l. Baltic Committee.

(For programme see Procès-Verbaux Vol. XXXIV p. 31).

Denmark. Investigations have been carried out as to the frequency of the 0-Group of the plaice in the Belts and western Baltic in summer of 1924.

Investigations as to the distribution and frequency of the larvae of plaice and cod have been carried out in April of 1925.

A paper has been published by Anton Fr. Bruun: "On Chiridothea entomon (L.) in the southern and western Baltic" (Publications de Circonstance No. 83, Copenhague 1924).

See also Hydrography Denmark II.

Finland. 1924 Sept. point 4. A cruise in the Baltic and its gulfs north of Gotland was made in July 1925.

1924 Sept. point 5. The observations on temperature and salinity at 26 coastal stations, and on temperature, salinity and currents at different depths from 10 lightships have been continued.

1924 Sept. point 6. Serial observations of oxygen at Märket have been continued.

1924 Sept. point 8. The bottom-samples from the June cruise 1924 have been investigated, and new samples were taken on the cruise in July 1925.

Poland. Methodical researches of the bottom fauna in the Polish territorial waters were made by Dr. K. Demel in the Laboratory for the Sea fishery at Hel. The first account entitled: "Faunistic Associations on the bottom of the Polish Baltic Sea" will shortly appear in the Bullet. Intern. de l'Acad. polonaise des Sciences et des Lettres — Cracov.

A full account concerning the Sea fishery in Polish parts of the Baltic Sea in 1924 was published by Mr. A. Hryniewicki in the Archive polonais de la pêche (Archiwum rybactwa polskiego) 1925.

Sweden. See pages 73, 75, 79, 82 and 84.

m. Limnological Section.

(For programme see Procès-Verbaux Vol. XXXII p. 24 and Vol. XXXIV p. 22).

Denmark.

a) Age determinations have been carried out on Sea Trout from Randers Fiord and Mariager Fiord in Jutland.

b) A report of marking experiments with Sea Trout in some rivulets of Bornholm has been worked out by Magister Erik M. Poulsen, and is published in "Dansk Fiskeritidende" for 8th July 1925.

Investigations of the H-ion concentration in some fresh waters in the western Jutland were undertaken in the summers of 1923 and 1924.

Finland. Investigations of the composition of the year classes of Coregonus

albula in lakes Keitele and Pyhäjärvi have been continued. A publication dealing with the same fish in the Nilakka and Pielavesi lakes has been published: T. H. Järvi: "Die kleine Maräne, *Coregonus albula* L., in Nilakka und Pielavesi". Annales acad. sc. fennica Ser. A. Vol. 21 or Finlands Fiskerier. Band 7.

Salmon investigations in the rivers Ule-, Kemi- and Kymi are also in progress.

Great Britain. England. Additional staff and accommodation are now being provided at the Ministry's Freshwater Station at Alresford, Hampshire, with a view to carrying out quantitative biological surveys of polluted and non-polluted streams, in connection with the work of the Ministry's Standing Committee on Rivers Pollution.

Ireland. The growth and habits of Salmon and Sea trout have been investigated, mainly by the systematic collection of measurements and scales of fish from the principal Irish rivers. Experiments in rearing salmon fry are in progress at the Fishery Department's hatchery at Glenties. Growth of brown trout in relation to environment is being studied.

The first report on the work carried out at the Limnological Laboratory at Portumna, dealing with Plankton investigations in Lough Derg, is now ready for press.

Holland. The intensive study of the scales of the Rhine salmon has been continued. Fishery investigations in some estuaries were carried out on board the floating laboratory "Meerval".

Poland. Salmon. According to the programme of 1924 further investigations concerning the Vistula salmon were carried out. For this purpose, an expedition to the spawning places of the salmon in the rivers Dunajec and Skawa (belonging to the Vistula System) was organised by the Fishery Department of the Ministry of Agriculture. The leadership of the expedition was in the hands of Dr. F. E. Lubecki. The main results of this expedition are as follows: In the Dunajec river 150 ripe females and 74 males were examined; the average weight of one ripe female salmon in Dunajec is 4.2 kg., that of one ripe male 5.6 kg. The maximum weight is 12 and 11 kg. for males and females respectively. All the salmons were 4—5 years old and had entered the Vistula after 2—3 years in the sea, and all for the first time.

Artificial spawning was carried out in the usual manner; after this operation only the females were able to return to the sea, and in good condition. 70 females were marked with a silver mark bearing the letters RP and number (RP = Republique Polonaise).

In the river Skawa only 10 ripe females and 3 males were examined. This Skawa salmon is larger (10—16 kg.) than that from Dunajec, is brightly coloured and has larger scales; it seems to represent a form nearly related to the typical *Salmo salar*.

The salmon from the Dunajec river measured after the methods of Smith

seems to represent an intermediate form between *S. salar* and *S. trutta*. Further investigations of these forms will be undertaken.

Observations concerning young salmon, their food, and marking experiments with young salmon (fingerlings) were made by Dr. W. KULMATYCKI in the Fishery Laboratory of the Agricultural Institute at Bydgoszez.

Results of investigations and material concerning Vistula salmon collected since 1912 will be published by Prof. Dr. E. SCHECHTEL from the University at Poznan.

The action of the sea water and of different salts upon the fry of Salmonid and Scombroid fishes has been studied in the zoological laboratory of the University of Cracov, by Dr. M. RAMULT.

Coregonid fishes. The coregonid fishes were studied in the fishery laboratory in Bydgoszez by Dr. KULMATYCKI and in the Hydrobiological Laboratory on Lake Wigry by Dr. A. LITYNSKI. Biology and systematic position of Coregonids were studied. Experiments were made with a view to acclimatising the valuable Coregonids from the brackish water of the Baltic Sea in the fresh water lakes in the northern part of Poland apparently with positive results. Further investigations are planned.